

TOLL BRIDGE PROGRAM OVERSIGHT COMMITTEE

MEETING MATERIALS

May 6, 2010

CALTRANS

BAY AREA TOLL AUTHORITY

CALIFORNIA TRANSPORTATION COMMISSION





Letter of Transmittal

TO: Toll Bridge Program Oversight Committee
(TBPOC)

DATE: April 28, 2010

FR: Program Management Team (PMT)

RE: TBPOC Meeting Materials Packet – May 6, 2010

Herewith is the TBPOC Meeting Materials Packet for the May 6th meeting. The packet includes memoranda and reports that will be presented at the meeting. A Table of Contents is provided following the Agenda to help locate specific topics.

Final Agenda

TBPOC MEETING
May 6, 2010, 2:00pm – 5:00pm
Director's Conference Room, 1120 N Street, Sacramento, CA
TBPOC - PMT pre-briefing, 2:00 – 3:00pm
TBPOC meeting, 3:00pm – 5:00pm

Topic	Presenter	Time	Desired Outcome
1. CHAIR'S REPORT	S. Heminger, BATA	5 min	Information
2. TBPOC/ ABF/ TYLMN Discussion a. Self-Anchored Suspension (SAS) Superstructure Mitigation and Acceleration Update 1) ABF Acceleration Status Report & Cost Estimate 2) TBPOC China Trip 3) Shanghai Expo	PMT	60 min	Information
3. CONSENT CALENDAR a. TBPOC Meeting Minutes: 1) April 1, 2010 Meeting Minutes* 2) April 12, 2010 Conference Call Minutes* b. Contract Change Orders (CCOs): 1) CCO 119-S3 (Yerba Buena Island Detour – Storm Water Pollution Prevention Plan - SWPPP)* 2) CCO 127 (SAS East End Mitigation – Constructability Models)* 3) CCO 139 (SAS East End Mitigation – Shop Space and Various)* 4) CCO 110 (SAS Mechanical, Electrical and Piping - MEP)*	A. Fremier, BATA A. Fremier, BATA D. Noel, CTC	1 min 1 min 5 min	Approval Approval Approval
4. PROGRAM ISSUES a. Draft 2010 First Quarter Risk Management Report*	J. Tapping, CT	10 min	Information
5. PROGRESS REPORTS a. Draft 2010 First Quarter Project Progress and Financial Update**	A. Fremier, BATA	3 min	Approval

Topic	Presenter	Time	Desired Outcome
6. SAN FRANCISCO-OAKLAND BAY BRIDGE UPDATES a. Yerba Buena Island Detour 1) Update 2) S-Curve Update/ Exit Strategy*** b. Yerba Buena Island Transition Structures No. 1 1) Update c. Oakland Touchdown No. 1 1) Update d. Oakland Touchdown No. 2 1) Scope Change Request* e. Bike Path Options*	T. Anziano, CT D. McElhinney, CT T. Anziano, CT T. Anziano, CT T. Anziano, CT S. Hulsebus, CT P. Lee, BATA	5 min 10 min 5 min 5 min 5 min	Information Approval Information Information Approval Information
7. DUMBARTON/ ANTIOCH BRIDGE RETROFIT UPDATE*	J. Weinstein, BATA M. Pazooki, CT	5 min	Information
8. OTHER BUSINESS			
Next TBPOC Meeting: June 3, 2010, 1:00 PM – 4:00 PM Director's Conference Room, 1120 N Street, Sacramento, CA			

*Attachments

**Stand-alone document included in the binder

***Final documents still in process. To be provided as soon as available.

**TBPOC MEETING
May 6, 2010**

INDEX TAB	AGENDA ITEM	DESCRIPTION
1	1	CHAIR'S REPORT
2	2	TBPOC/ ABF/ TYLMN Discussion a. Self-Anchored Suspension (SAS) Superstructure Mitigation and Acceleration Update 1) ABF Acceleration Status Report & Cost Estimate 2) TBPOC China Trip 3) Shanghai Expo
3	3	CONSENT CALENDAR a. TBPOC Meeting Minutes 1) April 1, 2010 Meeting Minutes* 2) April 12, 2010 Conference Call Minutes* b. Contract Change Orders (CCOs) 1) CCO 119-S3 (Yerba Buena Island Detour – Storm Water Pollution Prevention Plan - SWPPP)* 2) CCO 127 (SAS East End Mitigation – Constructability Models)* 3) CCO 139 (SAS East End Mitigation - Shop Space and Various)* 4) CCO 110 (SAS Mechanical, Electrical and Piping - MEP)*
4	4	PROGRAM ISSUES a. Draft 2010 First Quarter Risk Management Report*
5	5	PROGRESS REPORTS a. Draft 2010 First Quarter Project Progress and Financial Update**

**TBPOC MEETING
May 6, 2010**

INDEX TAB	AGENDA ITEM	DESCRIPTION
6	6	SAN FRANCISCO-OAKLAND BAY BRIDGE UPDATES <ul style="list-style-type: none"> a. Yerba Buena Island Detour <ul style="list-style-type: none"> 1) Update 2) S-Curve Update/ Exit Strategy*** b. Yerba Buena Island Transition Structures No. 1 <ul style="list-style-type: none"> 1) Update c. Oakland Touchdown No. 1 <ul style="list-style-type: none"> 1) Update d. Oakland Touchdown No. 2 <ul style="list-style-type: none"> 1) Scope Change Request* e. Bike Path Options*
7	7	DUMBARTON/ ANTIOCH BRIDGE RETROFIT UPDATE
8	8	OTHER BUSINESS

*Attachments

**Stand-alone document included in the binder

***Final document still in process. To be provided as soon as available.

Memorandum

TO: Toll Bridge Program Oversight Committee (TBPOC) **DATE:** April 28, 2010

FR: Program Management Team (PMT)

RE: Agenda No. - 2a
TBPOC/ ABF/ TYLMN Discussion
SAS Mitigation and Acceleration Update

Recommendation:

For Information Only

Cost:

N/A

Schedule Impacts:

N/A

Discussion:

ABF and TYLMN will be attending the TBPOC May 6 meeting to discuss recent mitigation and acceleration strategies.

Additionally, the PMT will provide an update on the TBPOC China trip and Shanghai Expo at the TBPOC meeting.

Attachment(s):

N/A

Memorandum

TO: Toll Bridge Program Oversight Committee (TBPOC) **DATE:** April 28, 2010

FR: Andrew Fremier, Deputy Executive Director, BATA

RE: Agenda No. - 3a1
Consent Calendar
Item- TBPOC Meeting Minutes
April 1, 2010 Meeting Minutes

Recommendation:
APPROVAL

Cost:
N/A

Schedule Impacts:
N/A

Discussion:
The Program Management Team has reviewed and requests TBPOC approval of the April 1, 2010 Meeting Minutes.

Attachment(s):
April 1, 2010 Meeting Minutes



TOLL BRIDGE PROGRAM OVERSIGHT COMMITTEE

CALTRANS BAY AREA TOLL AUTHORITY CALIFORNIA TRANSPORTATION COMMISSION

MEETING MINUTES

April 1, 2010, 10:00 AM – 1:00 PM

Mission Bay Office, Conference Room 1906, 325 Burma Road, Oakland

TBPOC-PMT pre-briefing, 9:00 AM – 9:30 AM

TBPOC meeting, 9:30 AM – 11:30 AM

TBPOC confined-space training: 11:30 AM – 1:30 PM

Attendees: TBPOC Members: Steve Heminger, Bimla Rhinehart, and Randy Iwasaki
PMT Members: Tony Anziano, Andrew Fremier, and Stephen Maller
Participants: Ali Banani, Bill Casey, Michele DiFrancia, Mike Forner, Ted Hall, Beatriz Lacson, Rick Land, Peter Lee, Bridget Lott (CHP), Brian Maroney (via phone), Bart Ney, Dina Noel, Sean Nozzari, Mo Pazooki, Gary Pursell, Pete Siegenthaler, Jon Tapping, Ken Terpstra, Steve Thoman (BATA Consultant), Deanna Vilchek, and Jason Weinstein
Part-Time Participants
ABF: Doug Fuller, Pat Flaherty, Mike Flowers, Don Jones, Brian Petersen, and Peter Vanderwaart
TYL/M&N: Scott Buckley, Dennis Jang, and Bob Nichol

Convened: 9:30 AM

Items		Action
1.	CHAIR'S REPORT <ul style="list-style-type: none">S. Heminger, the Chair, had no news to report, but noted that this will be the last TBPOC meeting for R. Iwasaki, and that he looks forward to future interactions with him in his new capacity.	
2.	TBPOC / ABF / TYLMN Discussion <ol style="list-style-type: none">SAS Mitigation and Acceleration Update<ol style="list-style-type: none">ABF Acceleration Status Report and Cost Estimate<ul style="list-style-type: none">The Chair stated the two main items for discussion as (1) soft opening of the bridge, and (2) acceleration for and delivery of lifts 13 and 14, with the expectation of agreeing on a schedule for resolving the two issues.	

(continued)

Items	Action
<ul style="list-style-type: none">• M. Flowers/B. Petersen gave a report on the progress of fabrication in China and an update on the shipments.• P. Vanderwaart gave a slide presentation covering “Mitigation Opportunities East End Fabrication”, “Shortest Way to Bridge Opening (not incl. East End acceleration)”, “Work that Must be Completed Prior to Soft Opening”, and “Work to be Completed After Soft Opening”.<ul style="list-style-type: none">○ Item 6, “Extra shop space for the deck panel and floor beam fabrication”, and item 8, “Extra ships to disconnect Lift 11 and 12 shipping, and 12 from 13 & 14” were isolated as needing commitment – with item 6 as requiring immediate attention.• Mitigation measures requiring action and new opportunities to accelerate were discussed, along with their corresponding costs, impact of change in ZPMC organization, and the effect of the OTD2 contract on the project/ soft opening.<ul style="list-style-type: none">○ The Chair expressed the TBPOC’s appreciation for all the work being done by ABF but pressed for a target date to resolve the two main concerns stated at the start of the meeting.• Further discussion continued after the meeting with the JV on how to help expedite fabrication/shipment of lifts 13 and 14.	<ul style="list-style-type: none">• ABF to provide the TBPOC at the May meeting with a revised version of their November 2009 shipment schedule to include the new shipment dates.• Staff to present to the TBPOC an update on OTD2 and its impact on SAS in the next two months.• ABF to provide a schedule for the resolution of the two items discussed, as follows:<ul style="list-style-type: none">○ With reference to item 1 (soft opening): July 8 TBPOC meeting.○ With reference to item 2 (fabrication/delivery of Lifts 13 & 14): June 3 TBPOC meeting.

(continued)

Items	Action
<ul style="list-style-type: none"> ○ It was the consensus to proceed with a commitment to extra shop space (item 6 of ABF's "Further measures being considered"). <p>2) TBPOC China Trip</p> <ul style="list-style-type: none"> • R. Iwasaki reported that the groundwork has been laid for a meeting with the Chinese ministry of construction, if desired. • M. Flowers noted that a TBPOC trip in June would be more productive. 	<ul style="list-style-type: none"> • The TBPOC directed J. Tapping to explore the cost-sharing of item 6 with ABF and report back to the TBPOC at the teleconference to be scheduled week of April 5.
<p>3. CONSENT CALENDAR</p> <p>a. TBPOC Meeting Minutes</p> <p>1) March 4, 2010 Meeting Minutes</p> <p>b. Contract Change Orders (CCOs)</p> <p>1) SAS CCO 77-S2 (Green-Tagging), \$1,445,690</p> <p>c. Yerba Buena Island (YBI) Ramps Cooperative Agreement (Estimated \$700,000 for TBSRP portion of oversight)</p> <p>d. Antioch Bridge Revised Budget</p> <ul style="list-style-type: none"> • J. Weinstein/M. Pazooki gave an update on the recent bid opening for the Antioch Bridge Seismic Retrofit Project, and requested TBPOC approval of a revised budget and forecast for the project based on recent bid results. ○ It was reported that award to lowest bidder California Engineering Contractors (CEC) is pending. ○ Due to the significantly low bids received, excess funds may be moved to the TBSRP program contingency. <ul style="list-style-type: none"> ➤ The Chair asked staff to assess the amount going into the program contingency. 	<ul style="list-style-type: none"> • The TBPOC APPROVED items 3a, 3b & 3c of the Consent Calendar, as presented. • Item 3d was removed from Consent Calendar for discussion. • Staff to re-evaluate the program contingency and

(continued)

Items	Action
	present the item again to the TBPOC at the teleconference to be scheduled week of April 5.
<p>4. PROGRESS REPORTS</p> <p>a. Draft Project Progress and Financial Update March 2010</p> <ul style="list-style-type: none">• A. Fremier presented, for TBPOC information, the final draft of the Project Progress and Financial Update March 2010. The PMT will approve the report for distribution through TBPOC-delegated authority, and requested TBPOC confirmation of this approval.	<ul style="list-style-type: none">• The TBPOC confirmed APPROVAL of the Project Progress and Financial Update March 2010 by the PMT through TBPOC-delegated authority, as presented.
<p>5. PROGRAM ISSUES</p> <p>a. TBSRP Capital Outlay Support (COS) Update</p> <ul style="list-style-type: none">• The Chair stated and staff confirmed that TBPOC approval is being requested for (1) FY 2010-11 COS budget and allocation of \$133.1 million for the program, and (2) COS \$204.0 million budget change for the SFOBB East Span Project to \$1.16 billion to cover known COS increases due to changes in the project schedule assuming a bridge opening in 2013.• The Chair requested additional information on the line item “Mgmt \$7.1M”. <p>b. Shanghai Expo</p> <ul style="list-style-type: none">• B. Ney gave an overview of the SFOBB’s potential participation at the 2010 Shanghai Expo in China during San Francisco Week (June 16 – 25), which would highlight the sister city relationship between San Francisco and Shanghai, handed out conceptual renderings of the pavilion, and requested TBPOC	<ul style="list-style-type: none">• The TBPOC APPROVED FY 2010-11 COS budget and allocation of \$133.1 million for the program, and COS \$204.0 million budget change for the SFOBB East Span Project to \$1.16 billion, as presented.• Staff to provide the TBPOC with the details for the “Mgmt \$7.1M” line item under the “FY 10-11 Budget Breakdown”.• The TBPOC APPROVED participation at the 2010

(continued)

Items	Action
approval to work with the San Francisco-Shanghai Sister City organization to participate in the Expo and to fund staffing for the event.	Shanghai Expo with B. Ney, as presented, with direction to try to secure private funding for staffing costs and offset by using Team China staff.
<p>6. SAN FRANCISCO-OAKLAND BAY BRIDGE (SFOBB) UPDATES</p> <p>a. Yerba Buena Island Detour (YBID)</p> <ol style="list-style-type: none">1) Update<ul style="list-style-type: none">• Not discussed.2) S-Curve Update/ Exit Strategy<ul style="list-style-type: none">• T. Anziano presented, for TBPOC approval, the proposed S-Curve enforcement strategy and related CCO costs. S. Nozzari and B. Lott (CHP) provided, for TBPOC information, the traffic safety enhancements, CHP enhanced enforcement data and accident rates summary.• R. Iwasaki proposed an immediate withdrawal approach that would reprogram \$1.3 million, prohibit trucks in lanes 4 and 5, and establish random checkpoints when data showed speeds to be on the rise.• In lieu of the alternative options proposed, T. Anziano suggested authorizing enforcement for one month, revisiting the matter, and presenting again at the TBPOC meeting next month.3) CCO 240-S2 (Nighttime Lane Closures)<ul style="list-style-type: none">• CCO 240-S2 in the amount of \$900,000 to pay for the placement of nighttime lane closures on the YBI Detour through October 2010 (see 6a2 discussion above). <p>b. Yerba Buena Island Transition</p>	<ul style="list-style-type: none">• The TBPOC deferred action until the May 6 TBPOC meeting when staff has re-evaluated the strategy, as discussed.• The TBPOC APPROVED CCO 240-S2 in the amount of \$500,000, as discussed.

(continued)

Items		Action
Structures (YBITS) No. 1 1) Update <ul style="list-style-type: none">• Not discussed. c. Oakland Touchdown (OTD) No. 1 1) Update <ul style="list-style-type: none">• Not discussed.		
7	EYEBAR REPAIR UPDATE <ul style="list-style-type: none">• Not discussed.	
8	DUMBARTON/ ANTIOCH BRIDGE RETROFIT UPDATE <ul style="list-style-type: none">• J. Weinstein/Mo Pazooki requested TBPOC approval of Addendum No. 1 for the Dumbarton Bridge Seismic Retrofit Project to remove the column base and bent cap retrofits at the east and west approach structures of the bridge. S. Thoman presented selected slides to explain and point out the locations of the elements involved.<ul style="list-style-type: none">○ When raised by the Chair, B. Maroney provided the background and explanation for the difference between the initial estimates for the seismic retrofit of the Dumbarton and Antioch bridges (\$1B, then \$750M) and the bids received for the Antioch Bridge Seismic Retrofit Project (\$35M - \$65M), which were significantly below estimate. The conservative approach, short timeframe within which the estimates were developed, application of lessons learned, and the benefits of research, all contributed to the variances that result in saving resources overall.	<ul style="list-style-type: none">• The TBPOC APPROVED Addendum No. 1 for the Dumbarton Bridge Seismic Retrofit Project, as presented.• Staff to provide the TBPOC a copy of the slide presentation.
9	OTHER BUSINESS <ul style="list-style-type: none">• The meeting adjourned in appreciation of R. Iwasaki's second tour of duty.	

Adjourned: 12:13 PM

(continued)

TBPOC MEETING MINUTES

April 1, 9:30 AM – 11:30 AM

Mission Bay Office, Conference Room 1906, 325 Burma Road, Oakland

APPROVED BY:

STEVE HEMINGER, Executive Director
Bay Area Toll Authority

Date

RANDELL H. IWASAKI, Director
California Department of Transportation

Date

BIMLA G. RHINEHART, Executive Director
California Transportation Commission

Date

Memorandum

TO: Toll Bridge Program Oversight Committee (TBPOC) **DATE:** April 28, 2010

FR: Andrew Fremier, Deputy Executive Director, BATA

RE: Agenda No. - 3a2
Consent Calendar
Item- TBPOC Meeting Minutes
April 12, 2010 Conference Call Minutes

Recommendation:
APPROVAL

Cost:
N/A

Schedule Impacts:
N/A

Discussion:
The Program Management Team has reviewed and requests TBPOC approval of the April 12, 2010 Conference Call Minutes.

Attachment(s):
April 12, 2010 Conference Call Minutes



TOLL BRIDGE PROGRAM OVERSIGHT COMMITTEE

CALTRANS BAY AREA TOLL AUTHORITY CALIFORNIA TRANSPORTATION COMMISSION

CONFERENCE CALL MINUTES

April 12, 2010, 4:00 PM – 5:00 PM

Attendees: TBPOC Members: Steve Heminger and Randy Iwasaki

PMT Members: Tony Anziano, Andrew Fremier, and Stephen Maller

Participants: Michele DiFrancia, Beatriz Lacson, Peter Lee, Mo Pazooki, Jon Tapping, Ken Terpstra, and Jason Weinstein

Convened: 4:07 PM

Items	Action
<p>1. Antioch and Dumbarton Bridge Seismic Retrofit Budgeting</p> <ul style="list-style-type: none">• A. Fremier referred to his e-mail today on this topic to further clarify how the budget figures for the Antioch and the Dumbarton Bridge seismic retrofit projects should be shown on the First and Second Quarter 2010 Reports, and the corresponding activity in the Program Contingency based on the bid award for the projects. TBPOC approval of these actions was requested (see Action column).• At the Chair's request, M. Pazooki provided the following update:<ul style="list-style-type: none">○ Antioch contract award is scheduled two days after BATA allocation of funds in April 2010.○ Dumbarton Addendum No. 1 is being prepared in Sacramento and expected to be released on April 21. Bid opening is scheduled for May 27.	<ul style="list-style-type: none">• The TBPOC APPROVED the following actions:<ul style="list-style-type: none">(1) Reflect in the First Quarter 2010 Report a budget of \$267M for the Antioch Bridge Seismic Retrofit Project and a budget of \$483M for the Dumbarton Bridge Seismic Retrofit Project, for a total of \$750M, as adopted by BATA in January 2010;(2) Show in the 2nd Quarter 2010 Report a revised budget of \$130M for the Antioch Bridge Seismic Retrofit Project, and remove \$137M from Program Contingency for return to BATA; and(3) Defer establishing a new budget for Dumbarton Bridge Seismic Retrofit Project and moving monies out from the Program Contingency until after bid opening in May, and reflect these changes in the 2nd Quarter 2010 Report.

(continued)

Items	Action
<p>2. ABF Extra Shop Space/ Follow-up</p> <ul style="list-style-type: none">• J. Tapping reported on his meeting with ABF about sharing the cost of extra space for the deck panel and floor beam fabrication, discussed at the April 1 TBPOC meeting.<ul style="list-style-type: none">○ ABF is not agreeable to cost- sharing and believes the owner to be responsible for this expense.○ T. Anziano recommended, and A. Fremier and S. Maller concurred, with moving ahead and developing a CCO for the extra shop space in China, estimated at \$13.8 million for six months, and suggested including language in the CCO related to liability.	<ul style="list-style-type: none">• The TBPOC APPROVED a CCO to cover the cost of extra shop space in an amount not to exceed \$13.8 million, for a maximum six-month duration, and to include language related to liability.

Adjourned: 4:25 PM

CONFERENCE CALL MINUTES

April 12, 2010, 4:00 PM – 5:00 PM

APPROVED BY:

STEVE HEMINGER, Executive Director
Bay Area Toll Authority

Date

RANDELL H. IWASAKI, Director
California Department of Transportation

Date

BIMLA G. RHINEHART, Executive Director
California Transportation Commission

Date

Memorandum

TO: Toll Bridge Program Oversight Committee (TBPOC) **DATE:** April 28, 2010

FR: Dina Noel, Assistant Deputy Director Toll Bridge Program, CTC

RE: Agenda No. - 3b1
Item- Consent Calendar
Yerba Buena Island Detour Contract Change Order No. 119-S3 –
Storm Water Pollution Prevention Plan (SWPPP)

Recommendation:
APPROVAL

Cost:
CCO 119-S3: \$600,000.00

Schedule Impacts:
None

Discussion:

CCO 119-S3 in the amount \$600,000 is necessary to pay for the implementation of the contractor's storm water pollution prevention plan (SWPPP) through the end of the contract in December 2010.

A total of \$1,788,939 for SWPPP implementation has been previously approved by the TBPOC under CCO #119-S0, CCO #119-S1, and CCO #119-S2. The original CCO #119-S0 implemented best management practices (BMP) in accordance with SWPPP. CCO #119-S1 and CCO #119-S2 provided compensation for contract extensions through the winters of 2009-2010 and 2010-2011.

The extended duration and severity of the 2009-2010 winter combined with outstanding payments for past work, inadvertently excluded from the estimate, have significantly impacted the estimated cost of maintaining the project BMP's throughout the remainder of the year.

After approval of this item, the total amount authorized by the TBPOC for BMPs in accordance with SWPPP comes to \$2,388,939.

Attachment(s):

1. Draft CCO: 119-S3
2. Draft CCO Memorandum: 119-S3
3. YBID Implementation Strategy Memo: to be handed out at TBPOC meeting

CONTRACT CHANGE ORDER

Change Requested by: Engineer

CCO: 119	Suppl. No. 3	Contract No. 04 - 0120R4	Road SF-80-12.6/13.2	FED. AID LOC.:
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To: CC MYERS INC

You are directed to make the following changes from the plans and specifications or do the following described work not included in the plans and specifications for this contract. **NOTE: This change order is not effective until approved by the Engineer.**

Description of work to be done, estimate of quantities and prices to be paid. (Segregate between additional work at contract price, agreed price and force account.) Unless otherwise stated, rates for rental of equipment cover only such time as equipment is actually used and no allowance will be made for idle time. This last percentage shown is the net accumulated increase or decrease from the original quantity in the Engineer's Estimate.

Extra Work at Force Account:

Provide additional funds for the work specified under the original Change Order No. 119.

Estimated cost of Extra Work at Force Account\$600,000.00

Estimated Cost: Increase ☒ Decrease ☐ **\$600,000.00**

By reason of this order the time of completion will be adjusted as follows: 0 days

Submitted by

Signature	Resident Engineer JEANNIE BALDERRAMOS	Date
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Approval Recommended by

Signature	Area Construction Manager DEANNA VILCHECK	Date
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Engineer Approval by

Signature	SFOBB Construction Manager MIKE FORNER	Date
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We the undersigned contractor, have given careful consideration to the change proposed and agree, if this proposal is approved, that we will provide all equipment, furnish the materials, except as may otherwise be noted above, and perform all services necessary for the work above specified, and will accept as full payment therefor the prices shown above.

NOTE: If you, the contractor, do not sign acceptance of this order, your attention is directed to the requirements of the specifications as to proceeding with the ordered work and filing a written protest within the time therein specified.

Contractor Acceptance by

Signature	(Print name and title)	Date
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CONTRACT CHANGE ORDER MEMORANDUM

DATE: 4/8/2010 Page 1 of 1

TO: MIKE FORNER / DEANNA VILCHECK			FILE: E.A. 04 - 0120R4	
FROM: JEANNIE BALDERRAMOS			CO-RTE-PM SF-80-12.6/13.2	
			FED. NO.	
CCO#: 119	SUPPLEMENT#: 3	Category Code: CXXX	CONTINGENCY BALANCE (incl. this change) \$36,037,244.59	
COST: \$600,000.00 INCREASE <input checked="" type="checkbox"/> DECREASE <input type="checkbox"/>			HEADQUARTERS APPROVAL REQUIRED? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
SUPPLEMENTAL FUNDS PROVIDED: \$0.00			IS THIS REQUEST IN ACCORDANCE WITH ENVIRONMENTAL DOCUMENTS? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
CCO DESCRIPTION: SWPPP Additional Funds Request			PROJECT DESCRIPTION: CONSTRUCT ROUTE 80 TEMP BYPASS STRUCTURE	
Original Contract Time: 475 Day(s)	Time Adj. This Change: 0 Day(s)	Previously Approved CCO Time Adjustments: 1660 Day(s)	Percentage Time Adjusted: (including this change) 349 %	Total # of Unreconciled Deferred Time CCO(s): (including this change) 0

THIS CHANGE ORDER PROVIDES FOR:

Additional funding for installing and maintaining Best Management Practices in accordance with Section 10-1.02, "Water Pollution Control" of the contract Special Provisions.

The original Change Order No. 119 provided for the contractor to be compensation on a force account basis to install and maintain Best Management Practices (BMP's) in accordance with their approved Storm Water Pollution Prevention Plan. Supplement No. 1 and Supplement No. 2 to Change Order No. 119 provided additional funds for this work to extend through the 2009/2010 winter and into the 2010/2011 winter.

Due to the extended duration and severity of the 2009/2010 winter, the cost of maintaining the project BMP's has exceeded the previous funding estimate. The contract has also submitted outstanding billings for past work which were not recognized previously. It is now anticipated that additional funding will be required for the contractor to maintain their BMP's into the 2010/2011 winter and to leave the worksite in a state consistent with the BMP's at the end of the contract in December of 2010.

The work shall be compensated as extra work at force account at an estimated cost of \$600,000 which shall be financed from the contract contingency funds. A cost analysis is on file.

No adjustment of contract time is warranted as the change will not affect the controlling operation.

This change was concurred with by Ken Terpstra - Project Manager, and Jaime Gutierrez - Project Engineer.

Maintenance concurrence is not required as the work doesn't affect any permanent roadway features.

CONCURRED BY:			ESTIMATE OF COST	
Construction Engineer: Jeannie Balderramos, RE	Date		THIS REQUEST	TOTAL TO DATE
Bridge Engineer:	Date		ITEMS \$0.00	(\$78,936.00)
Project Engineer: Jaime Gutierrez, PE	Date		FORCE ACCOUNT \$600,000.00	\$2,450,000.00
Project Manager: Ken Terpstra, PM	Date		AGREED PRICE \$0.00	\$10,000.00
FHWA Rep.:	Date		ADJUSTMENT \$0.00	\$7,875.00
Environmental:	Date		TOTAL \$600,000.00	\$2,388,939.00
Other (specify):	Date		FEDERAL PARTICIPATION	
Other (specify):	Date		<input type="checkbox"/> PARTICIPATING <input type="checkbox"/> PARTICIPATING IN PART <input checked="" type="checkbox"/> NONE <input type="checkbox"/> NON-PARTICIPATING (MAINTENANCE) <input type="checkbox"/> NON-PARTICIPATING	
District Prior Approval By: Larry Salhaney, HQ CCO Engine	Date		FEDERAL SEGREGATION (if more than one Funding Source or P.I.P. type)	
HQ (Issue/Approve) By:	Date		<input type="checkbox"/> CCO FUNDED PER CONTRACT <input type="checkbox"/> CCO FUNDED AS FOLLOWS	
Resident Engineer's Signature:	Date		FEDERAL FUNDING SOURCE	PERCENT

Memorandum

TO: Toll Bridge Program Oversight Committee (TBPOC) **DATE:** April 28, 2010

FR: Dina Noel, Assistant Deputy Director Toll Bridge Program, CTC

RE: Agenda No. - 3b2
Item- Consent Calendar
Self-Anchored Suspension (SAS) Superstructure Contract Change
Order No. 127 – East End Mitigation (Constructability Models)

Recommendation:

APPROVAL

Cost:

CCO 127: \$4,300,000.00

Schedule Impacts:

None

Discussion:

CCO 127 in the amount not to exceed \$4,300,000 will provide payment to the contractor to fabricate full scale constructability models of critical areas of lifts 13 and 14 for the orthotropic box girders (OBG), also known as the east end OBG, and payment for all the technical support needed to engineer, detail, and build the prototype models. It also directs the contractor to provide an inspection testing plan and specialized fabrication procedures, not called for in the contract special provisions, to establish tolerances and methods to determine sequences of fabrication and associated inspections.

The engineering complexities of the east end OBGs with its intricate geometry and structural elements were first realized during the shop drawing development process. CCO 127 is the next step towards achieving successful completion of deck segment assembly. As such, it was conceptually approved by the TBPOC at the March 4, 2010 meeting for an amount not to exceed \$5,000,000.

Attachment(s):

1. Draft CCO: 127
2. Draft CCO Memorandum: 127

CONTRACT CHANGE ORDER

Change Requested by: Engineer

CCO: 127 Suppl. No. 0 Contract No. 04 – 0120F4 Road SF-80-13.2/13.9 FED. AID LOC.:

To: **AMERICAN BRIDGE/FLUOR ENTERPRISES INC A JOINT VENTURE**

*You are directed to make the following changes from the plans and specifications or do the following described work not included in the plans and specifications for this contract. **NOTE: This change order is not effective until approved by the Engineer.***

Description of work to be done, estimate of quantities and prices to be paid. (Segregate between additional work at contract price, agreed price and force account.) Unless otherwise stated, rates for rental of equipment cover only such time as equipment is actually used and no allowance will be made for idle time. This last percentage shown is the net accumulated increase or decrease from the original quantity in the Engineer's Estimate

Extra Work at Agreed Lump Sum:**Constructability Model Engineering and Fabrication Procedures for East End OBG**

The Contractor shall provide engineering, detailing, and technical support necessary to develop constructability models identified in this change order for OBG Lifts 13 and 14. In addition, the Contractor shall provide an Inspection Testing Plan (ITP) and specialized fabrication procedures, not otherwise required by the Special Provisions, which will establish fabrication tolerances and methods to measure tolerances. Based on constructability issues discovered during the construction of the models revise fabrication procedures, DCP/DVP, ITP and other related fabrication submittals as provided in the Special Provisions and this change order.

The Contractor shall submit to the Engineer written, detailed, and specialized fabrication procedures for the complex assemblies listed below:

- a. Saddle grillage for the east saddles
- b. Temporary bearing assembly
- c. K-Plate Assembly
- d. Architectural housing Assembly
- e. East Cable Anchorage Overall Assembly
- f. Box girder reinforcement at East Saddle and Pier E2 bearing and Shear Key
- g. Super Elevation Transition
- h. Hinge A Assembly

The detailed and specialized fabrication procedures shall include the following:

1. The assembly and welding sequence to identify the accessibility, position, weld process with reference to the Weld Details in the working drawings and the WPS for the actual welding
2. Bolt tightening procedure to ensure that the bolts can be tightened and torqued in accordance with the contract requirements
3. Inspection Testing Plan (ITP) for welds and bolts to demonstrate accessibility and sequencing, and to ensure that welds and bolts are inspected prior to being inaccessible, and to identify special inspection requirements
4. Inspection holds points
5. Explain the dimensional verification procedures in accordance with the approved DVP, identify fabrication tolerances where the Special Provisions and AWS D1.5 are not applicable, and identify which portions of the DVP will be utilized
6. Additional dimensional control procedures in conjunction with the approved DCP
7. Painting sequence and procedures
8. Identify all temporary attachments needed for handling including the final lifting
9. Details of jigs or other supports including supports for the handling of the segments by multi-wheelers such as Scheuerle transporters

The Contractor will be compensated at the agreed lump sum amount of (not to exceed) \$1,300,00.00 for the above extra work, including all markups.

Estimate of Extra Work at Agreed Lump Sum (Not to Exceed) \$ 1,300,00.00

CONTRACT CHANGE ORDER

Change Requested by: Engineer

CCO: 127 Suppl. No. 0 Contract No. 04 – 0120F4 Road SF-80-13.2/13.9 FED. AID LOC.:

Extra Work at Agreed Unit Price**Constructability Models**

The Contractor shall fabricate constructability models for portions of the East End OBG listed below to demonstrate fabrication procedures and welding sequencing, to verify access, and to demonstrate the proposed inspection testing plan for welds.

1. Lift 13 – Saddle Grillage Area and Box Girder Reinforcement at the Bearing and Shear Key Area
2. Lift 14 – Cable Anchorage Zone and Hinge Pipe Beam Area Including Reinforcement

The Contractor may propose alternative steel grades for preparation of the constructability models with the approval of the Engineer. For each constructability model, the Contractor shall follow the current written fabrication procedure and welding sequence. The Engineer shall be allowed to witness all fit-up and welding for each constructability model. Constructability models shall not be incorporated into the permanent OBG structure.

The exact make-up and limits of the constructability models will be as agreed upon between the Contractor and the Engineer, and will be subject to modification, more or less, with agreement of the Contractor and the Engineer. The effort to produce the constructability models shall in no way impact the project schedule's critical path. Work on the constructability models may be terminated at any time by either the Contractor or the Engineer.

The Contractor shall utilize lessons learned from the fabrication of the constructability models to revise and resubmit the Fabrication/Erection Procedures, DCP/DVP, Inspection Testing Plan and other fabrication submittals as provided in this change order.

Constructability models will be measured and paid for at the agreed unit price of \$5000.00 per metric ton for each metric ton of steel incorporated into the constructability models. Payment for the weight of steel incorporated into the constructability models shall not exceed 600 metric tons and will be determined from component weights shown on the approved shop drawings. The agreed upon unit price shall include full compensation for all materials, labor and equipment necessary to construct the constructability models, complete in place, including all markups. Upon request, partial progress payments of completed extra work will be made at unit price based on the estimated percentage of work completed.

Estimate of Extra Work at Agreed Unit Price Cost (600 metric tons at \$5,000.00/metric ton) = \$3,000,000.00

Total Estimated Cost of this Change Order (Not to Exceed)..... \$4,300,00.00

Estimated Cost: Increase ☒ Decrease ☐ (Max) \$4,300,00.00

By reason of this order the time of completion will be adjusted as follows: 0 days

Submitted by

Signature	Resident Engineer		Date
	Jason Tom for Gary Pursell, Sup.T.E.		

Approval Recommended by

Signature	Supervising Transportation Engineer		Date
	Gary Pursell, Sup.T.E.		

Engineer Approval by

Signature	Principal Transportation Engineer		Date
	Peter Siegenthaler, Prin.T.E.		

We the undersigned contractor, have given careful consideration to the change proposed and agree, if this proposal is approved, that we will provide all equipment, furnish the materials, except as otherwise be noted above, and perform all services necessary for the work above specified, and will accept as full payment therefor the prices shown above.

NOTE: If you, the contractor, do not sign acceptance of this order, your attention is directed to the requirements of the specifications as to proceeding with the ordered work and filing a written protest within the time therein specified.

Contractor Acceptance by

Signature	(Print name and title)		Date
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CONTRACT CHANGE ORDER MEMORANDUM

DATE: 8/04/2009

Page 1 of 1

DC-CEM-4903 (OLD HC-39 REV. 6/93) CT# 7541-3544-0

DRAFT

TO Pete Siegenthaler, Principal TE			FILE 04-0120F4	
FROM Gary Pursell, STE / Richard Morrow, SBE			04-SF-80-13.2/13.9	
CCO NO. 127	SUPPLEMENT NO. 0	CATEGORY CODE BZZZ	CONTINGENCY BALANCE (including this change) \$1,231,909.40	
\$4,300,000.00			HEADQUARTERS APPROVAL REQUIRED? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
SUPPLEMENTAL FUNDS PROVIDED \$ 0.00			IS THIS REQUEST IN ACCORDANCE WITH ENVIRONMENTAL DOCUMENTS? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
CCO DESCRIPTION: Welder Training			PROJECT DESCRIPTION CONSTRUCT SELF-ANCHORED SUSPENSION BRIDGE	
Original Contract Time 2490 Day(s)	Time Adj.: This Change 0 Day(s)	Previously Approved CCO Time Adjustments 227 Day(s)	Percentage Time Adjusted: (including this change) 9%	Total # of Unreconciled Deferred Time CCO(s): (including this change) 6

THIS CHANGE ORDER PROVIDES FOR:

The Contractor to provide engineering, detailing, and technical support necessary to develop constructability models identified in this change order for OBG Lifts 13 and 14 (The East End OBG). In addition, the contractor is to provide an Inspection Testing Plan (ITP) and specialized fabrication procedures, not otherwise required by the Special Provisions, which will establish fabrication tolerances and methods to measure tolerances. Also this change order provides for the contractor to fabricate constructability models for portions of the East End OBG to demonstrate fabrication procedures and welding sequencing, verify access, and demonstrate the proposed inspection testing plan for welds

The East End OBG, with its very complex geometry and structural elements, presented many challenges and issues to be resolved during the development and detailing of shop drawings. Consequently the delivery and approval of the East End OBG shop drawing has been delayed approximately one year. The delays and complexity of the East End OBG fabrication pose a risk to the scheduled delivery of the East End OBG segments.

In order to reduce risk of further delays the department requests the contractor to develop and fabricate contractibility models as described in this change order to identify fabrication issues early on. Based on the lessons learned from the constructability models, the contractor will revise fabrication procedures, DCP/DVP, ITP and other related fabrication submittals as provided in the Special Provision. The Department believes implementing these measures will reduce the risk associated with the East End OBG fabrication. While maintaining or improving the overall project schedule the additional work will not impact the critical path of the project as agreed upon by the Contractor and the Department.

The Toll Bridge Program Oversight Committee (TBPOC), at their March 4, 2010, monthly meeting, approved several delay mitigation measures and the East End OBG Models as described in this change order is one of the items that was approved by the TBPOC.

This change is estimated to total (Not to Exceed) \$4,300,000.00, which can be financed from the contingency fund. A detailed cost estimate is on file.

This change order has concurrence from Gary Pursell (Resident Engineer), Ken Terpstra (Project Manager), Rich Foley (HQ Liaison), and Pete Siegenthaler (Principal Engineer).

Maintenance concurrence is not required for this change.

No adjustment of contract time is warranted, as this change does not affect the controlling operation.

CONTRACT CHANGE ORDER MEMORANDUM

DATE: 8/04/2009

Page 1 of 1

DC-CEM-4903 (OLD HC-39 REV. 6/93) CT# 7541-3544-0

CONCURRED BY:		ESTIMATE OF COST	
CONSTRUCTION ENGINEER	DATE	THIS REQUEST	TOTAL TO DATE
Res. Eng. Gary Pursell, Sup. TE	3/24/10		
SR. BRIDGE ENGINEER	DATE	ITEMS	\$0.00 \$0.00
Rick Morrow, Struct. Rep.		FORCE ACCOUNT	\$0.00 \$0.00
FHWA REPRESENTATIVE	DATE	AGREED PRICE	\$4,300,000.00 \$4,300,000.00
		ADJUSTMENT	\$0.00 \$0.00
PROJECT MANAGER	DATE	TOTAL	\$0.00 \$0.00
Proj. Manager, Ken Terpstra	3/24/10		
OTHER (SPECIFY)	DATE	FEDERAL PARTICIPATION	
		<input type="checkbox"/> PARTICIPATING <input type="checkbox"/> PARTICIPATING IN PART <input checked="" type="checkbox"/> NONE <input type="checkbox"/> NON-PARTICIPATING (MAINTENANCE) <input type="checkbox"/> NON-PARTICIPATING	
		FEDERAL SEGREGATION (IF MORE THAN ONE FUNDING SOURCE OR P.I.P. TYPE)	
PCE, Peter Siegenthaler, Prin TE	3/24/10	<input type="checkbox"/> CCO FUNDED PER CONTRACT <input type="checkbox"/> CCO FUNDED AS FOLLOWS	
DISTRICT PRIOR APPROVAL BY	DATE	FEDERAL FUNDING SOURCE	PERCENT
HQ (ISSUE & APPROVE) (TO PROCEED) BY	DATE		
Larry Salhaney			
RESIDENT ENGINEER SIGNATURE	DATE		

TO: Toll Bridge Program Oversight Committee (TBPOC) **DATE:** April 28, 2010

FR: Dina Noel, Assistant Deputy Director Toll Bridge Program, CTC

RE: Agenda No. - 3b3
Item- Consent Calendar
Self-Anchored Suspension (SAS) Superstructure Contract Change
Order 139 – East End Mitigation (Shop Space and Various)

Recommendation:

APPROVAL

Cost:

CCO 139: \$17,000,000.00

Schedule Impacts:

None

Discussion:

CCO 139 in the amount not to exceed \$17,000,000 will provide payment to the contractor for:

1. ZPMC shop drawing translators and fabrication resources: \$ 381,704
2. Additional Jigs for fabrication: \$ 2,058,210
3. Mobilize steel detailers team to ZPMC: \$ 500,000
4. Additional shop space (not to exceed six months): \$ 13,800,000
5. Miscellaneous (dehumidifiers, compressors, tools, etc): \$ 212,000

The engineering complexities of the east end OBGs with its intricate geometry and structural elements were first realized during the shop drawing development process. CCO 139 aims at mitigating further east end fabrication delays. As such, items 1 through 3 were discussed and conceptually approved by the TBPOC at their March 4, 2010 meeting. Subsequently, at the April 1, 2010 TBPOC meeting, the TBPOC discussed and authorized construction staff to negotiate resolution of item 4. Providing miscellaneous items like dehumidifiers to expedite painting, compressors, tools, and impact guns also fit into the overall delay mitigation strategy and for that reason item 5 has been incorporated into this CCO.

Memorandum

Attachment(s):

1. Draft CCO: 139
2. Draft CCO Memorandum: 139

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION

CONTRACT CHANGE ORDER

Change Requested by: Engineer

CCO: 139 Suppl. No. 0 Contract No. 04 – 0120F4 Road SF-80-13.2/13.9 FED. AID LOC.:

To: **AMERICAN BRIDGE/FLUOR ENTERPRISES INC A JOINT VENTURE**

You are directed to make the following changes from the plans and specifications or do the following described work not included in the plans and specifications for this contract. **NOTE: This change order is not effective until approved by the Engineer.**

Description of work to be done, estimate of quantities and prices to be paid. (Segregate between additional work at contract price, agreed price and force account.) Unless otherwise stated, rates for rental of equipment cover only such time as equipment is actually used and no allowance will be made for idle time. This last percentage shown is the net accumulated increase or decrease from the original quantity in the Engineer's Estimate.

This change order provides for mitigation of fabrication delays, which includes the following:

1. Additional Fabricator's Engineering and Technical Resources
2. Dehumidifiers to Expedite Painting
3. Additional Jigs for Fabrication
4. Additional Shop Space for OBG Fabrication
5. Mobilizing Detailers to Fabrication Facility & Oakland
6. Furnish Impact Guns, Compressors and Tools

Extra Work at Agreed Lump Sum Price:

Item 1 – Additional Fabricator's Engineering and Technical Resources

Provide additional engineering services, detailers, translators and technical resources at the Contractor's fabrication facility (ZPMC), to expedite shop drawing translation, fabrication procedures, shop drawing conformance with fabrication procedures, fabrication planning and other technical reviews, therefore advancing fabrication of the East End OBG.

Additional Engineering and Technical Resources at Agreed Lump Sum..... \$ 381,704.00

Item 2 – Dehumidifiers to Expedite Painting

Furnish two additional portable dehumidifier units as directed by the Engineer to be employed during component painting operations thus extending the available painting work windows. The cost of the two additional portable dehumidification units will be borne equally by the Contractor and the Department.

Departments Share of Agreed Lump Sum Price: \$ 112,000.00

Total Estimate of Extra Work at Force Account (Items 1 and 2)..... \$ 493,704.00

This sum constitutes full compensation, including markups, for the changes ordered in Items 1 and 2.

Extra Work at Agreed Unit Price:

Item 3 – Additional Jigs for Fabrication

Furnish, install and remove additional jigs for the fabrication of East End OBG including, but not limited to, additional jigs for floor beam and deck panel fabrication in the shop space added under Item 4 of this change order. For this work, the contractor will be paid \$3,742.20 per metric ton. This price constitutes full compensation, including all markups, for the work of this change.

For payment purposes, the weight of additional jigs will be determined by a field quantity survey of additional jigs in place, converted to weights using established unit weights, as determined by the Engineer. The total payment for additional jigs shall not exceed 550 metric tons.

Estimated Extra Work at Agreed Unit Price: 550 Metric Tons @t \$3,742.20/Metric ton..... \$ 2,058,210.00

Item 4 – Additional Shop Space

Furnish additional shop space as directed by the Engineer to expedite fabrication of the East End OBG.

The estimated additional shop space at agreed unit price is shown in the table below. Additional shop space may be increased or decreased as deemed necessary, consistent with the provisions of this change order, with approval of the Engineer.

Shop Area	Fabrication Usage	Shop Area (SM)	Duration (Days)	Unit Price (\$/SM/Day)	Total
Workshop 5	TBD	5,200	120	TBD	TBD
HD Shop 1	TBD	6,000	180	TBD	TBD
HD Shop 2	TBD	6,000	180	TBD	TBD
Workshop 13	TBD	4,000	120	TBD	TBD
Workshop 14	TBD	4,000	120	TBD	TBD
Workshop 1	TBD	4,140	120	TBD	TBD

Payment for additional shop space shall not exceed 6 months (180 days) at the agreed price for each agreed upon additional shop area, unless otherwise approved in writing by the Engineer. The total compensation for additional shop space shall not exceed \$13,800,000.00.

Compensation for addition shop space will commence and terminate when fabrication has substantially begun or has been substantially completed, respectively, in each individual shop area, as determined by the Engineer. Shop space time required for removal of jigs is considered incidental and will not qualify for payment.

The contractor shall submit itemized invoices showing the basis for requested compensation for additional shop space, which will be subject to agreement from the Engineer prior to approval of payment.

Estimated Extra Work Agreed Unit Price (Not to Exceed)..... \$13,800,000.00

The above agreed unit price constitutes full compensation, including all markups, for the work of this change.

Extra Work at Force Account:**Item 5 – Mobilize Detailers to Fabrication Facility & Oakland**

As directed by the Engineer, in support of expediting East End OBG shop drawing review and fabrication efforts, furnish structural steel detailers in Shanghai, China, and in Oakland California. Compensation shall be provided as extra work at force account in the same manner as the Contractor's Candraft-Tensor LLC Change Order 89 (sheets 4 & 5 of this change order), plus applicable markup.

Should the Engineer require additional structural steel detailers related to Item 5, compensation will be made through this Change Order in the same manner as the preceding paragraph.

Estimate of Extra Work at Force Account (Item 5): \$ 500,000.00

Item 6 – Furnish Impact Guns, Compressors and Tools

As directed by the Engineer, furnish Impact Guns, Compressors and Tools to expedite structural steel bolt installation and facilitate East End OBG fabrication.

Estimate of Extra Work at Force Account (Item 6): \$ 100,000.00

Total Estimate of Extra Work at Force Account (Items 5 and 6)..... \$ 600,000.00

Labor, equipment and material authorized by the Engineer, as necessary for Items 5 and 6, will be paid in accordance with the provisions of Section 4-1.03D, "Extra Work" of the Standard Specifications and Section 5-1.24, "Force Account Payment" of the Special Provisions.

Summary of Estimate of Extra Work:

Item 1 – Additional Fabricator's Engineering and Technical Resources	\$ 381,704.00
Item 2 – Dehumidifiers to Expedite Painting	\$ 112,000.00
Item 3 – Additional Jigs for Fabrication	\$ 2,058,210.00
Item 4 – Furnish Additional Shop Space	\$13,800,000.00
Item 5 – Mobilize Detailers to Fabrication Facility	\$ 500,000.00
Item 6 – Furnish Impact Guns, Compressors and Tools	\$ 100,000.00
Total Estimated Extra Work for this Change Order	\$16,951,914.00

It is understood and agreed that the issuance of the change order in no way whatsoever is an acknowledgement of liability by the Department for past East End OBG delays. It is further understood the above delay mitigation measures will be executed without delaying OBG Lift 13 and 14 shipping dates and will not increase the project's critical path. The Contractor shall notify the Engineer immediately if the work directed herein will in any way delay completion of planned fabrication activities.

Consideration of a time adjustment will be deferred until completion of the work specified herein. Determination of a commensurate time adjustment will be made in accordance with Section 10-1.13, "PROGRESS SCHEDULE (CRITICAL PATH METHOD)" and Section 10-1.14, "TIME-RELATED OVERHEAD" of the Special Provisions, as well as Section 8-1.07, "LIQUIDATED DAMAGES", of the Standard Specifications.

Estimated Cost: Increase ☐ Decrease ☒ **\$16,951,914.00**

By reason of this order the time of completion will be adjusted as follows: **Deferred**

Submitted by

Signature	Resident Engineer	Kannu Balan for Gary Pursell, Sup.T.E.	Date
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Approval Recommended by

Signature	Supervising Transportation Engineer	Gary Pursell, Resident Engineer	Date
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Engineer Approval by

Signature	Principal Transportation Engineer	Peter Siegenthaler, Const Manager	Date
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We the undersigned contractor, have given careful consideration to the change proposed and agree, if this proposal is approved, that we will provide all equipment, furnish the materials, except as otherwise be noted above, and perform all services necessary for the work above specified, and will accept as full payment therefor the prices shown above.

NOTE: If you, the contractor, do not sign acceptance of this order, your attention is directed to the requirements of the specifications as to proceeding with the ordered work and filing a written protest within the time therein specified.

Contractor Acceptance by

Signature	(Print name and title)	Date
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CONTRACT CHANGE ORDER MEMORANDUM

DATE: 8/04/2009

Page 1 of 1

DC-CEM-4903 (OLD HC-39 REV. 6/93) CT# 7541-3544-0

DRAFT

TO Pete Siegenthaler, Principal TE			FILE 04-0120F4	
FROM Gary Pursell, STE / Richard Morrow, SBE			04-SF-80-13.2/13.9	
CCO NO. 139	SUPPLEMENT NO. 0	CATEGORY CODE BZZZ	CONTINGENCY BALANCE (including this change) \$7,231,909.40	
\$xx INCREASE <input checked="" type="checkbox"/> DECREASE <input type="checkbox"/>			HEADQUARTERS APPROVAL REQUIRED? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
SUPPLEMENTAL FUNDS PROVIDED \$ 0.00			IS THIS REQUEST IN ACCORDANCE WITH ENVIRONMENTAL DOCUMENTS? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
CCO DESCRIPTION: Welder Training			PROJECT DESCRIPTION CONSTRUCT SELF-ANCHORED SUSPENSION BRIDGE	
Original Contract Time 2490 Day(s)	Time Adj.: This Change 0 Day(s)	Previously Approved CCO Time Adjustments 227 Day(s)	Percentage Time Adjusted: (including this change) 9%	Total # of Unreconciled Deferred Time CCO(s): (including this change) 6

THIS CHANGE ORDER PROVIDES FOR:

Requiring the contractor to provide the following fabrication delay mitigation measures:

1. Additional Fabricator's Engineering and Technical Resources
2. Dehumidifiers to Expedite Painting
3. Additional Jigs for Fabrication
4. Additional Shop Space for OBG Fabrication
5. Mobilizing Detailers to Fabrication Facility & Oakland
6. Furnish Impact Guns, Compressors and Tools

The complexity of the design of OBG lifts 13 and 14 (East End OBG), with its widely varying geometry and curvature in all three dimensions, the main cable anchorage system, bearings and shear key supports, and the hinge pipe beam connection to the Skyway, has presented design challenges and constructability issues to be resolved during the development and detailing of shop drawings. Consequently, delivery and approval of the East End OBG shop drawings and the commencement of fabrication has been delayed approximately one year.

In addition, the anticipated complex fabrication of the East End OBG has the potential to introduce further schedule risk; especially access and confinement for welding, inspection and testing in the vicinity of the cable anchorage system inside the deck sections. The critical access areas will require 1) detailed fabrication sequencing to ensure constructability of the work and 2) establishment of a testing protocol in conjunction with the step-by-step fabrication to ensure that adequate QC and QA work will be performed effectively and efficiently during the fabrication process. These additional procedures and protocols are being developed under CCO 127.

To recover the schedule delays for the East End Fabrication and minimize the risk of future fabrication delays, the Contractor and the Department, in collaboration with the Toll Bridge Program Oversight Committee (TBPOC), have outlined several delay mitigation measures, which have been presented to the TBPOC for consideration and approvals. The above referenced delay mitigation measures 1, 3, and 5 and the delay mitigation measure 4 were approved by the TBPOC on March 4, 2010, and April 12, 2010, respectively. In addition, delay mitigation measures 2 and 6 were included by the Department and approved by the TBPOC on May 6, 2010.

Additional fabricator's engineering and technical resources will be used to expedite translation, reviews and conformity of the shop production drawings for the East End OBGs. The additional dehumidifiers will improve the efficiency of painting operations and allow painting work to proceed in inclement weather conditions. Mobilization of detailers to the ZPMC facility and Oakland will enhance the review response time, thus expediting start up of fabrication and the rapid resolution of necessary changes. Additional shop spaces are needed to increase fabrication shop productivity thus expediting fabrication of the East End OBG. The additional jigs are necessary to support fabrication in the additional shop space, and impact tools and equipment will expedite bolting and fit up operations, thereby improving the delivery schedule to the project site.

CONTRACT CHANGE ORDER MEMORANDUM

DATE: 8/04/2009

Page 2 of 1

DC-CEM-4903 (OLD HC-39 REV. 6/93) CT# 7541-3544-0

It is anticipated these mitigation measures will reduce risk of further delays to the completion of the project, and recover and/or improve the schedule by mitigating past delays. The delay mitigation measures will be implemented prior to the start of applicable fabrication activities to assure successful early completion of the controlling activities involved. It is understood the mitigation measures will not adversely affect controlling operations.

Consideration of adjustment of contract time will be deferred until completion of fabrication work involved when actual overall schedule benefits are analyzed and agreed upon with the Contractor.

Final responsibility for shop drawing delays has not been determined and resolved. Therefore, the change order includes a disclaimer that issuance of this change order is not an acknowledgement of liability by the Department for past East End OBG delays.

This work is not covered by any contract items. Therefore, payment for this work will be financed from the contingency fund. A cost analysis is on file.

This change order received concurrences from Gary Pursell (Resident Engineer), Pete Siegenthaler (Principal Engineer), Ken Terpstra (Project Manager), Tony Anziano (Toll Bridge Manager) and Jon Tapping (SFOBB Project Risk Manager). Maintenance and Design concurrences are not required for this change.

This change order received approval from TBPOC on May 6, 2010, and an Issue and Approve from Headquarter Construction on May ?, 2010.

CONCURRED BY:		ESTIMATE OF COST	
CONSTRUCTION ENGINEER	DATE	THIS REQUEST	TOTAL TO DATE
Res. Eng. Gary Pursell, Sup. TE	3/24/10		
SR. BRIDGE ENGINEER	DATE	ITEMS	\$0.00
Rick Morrow, Struct. Rep.		FORCE ACCOUNT	\$0.00
FHWA REPRESENTATIVE	DATE	AGREED PRICE	\$xx
		ADJUSTMENT	\$0.00
PROJECT MANAGER	DATE	TOTAL	\$0.00
Proj. Manager, Ken Terpstra	3/24/10		\$0.00
OTHER (SPECIFY)	DATE	FEDERAL PARTICIPATION	
		<input type="checkbox"/> PARTICIPATING <input type="checkbox"/> PARTICIPATING IN PART <input checked="" type="checkbox"/> NONE <input type="checkbox"/> NON-PARTICIPATING (MAINTENANCE) <input type="checkbox"/> NON-PARTICIPATING	
		FEDERAL SEGREGATION (IF MORE THAN ONE FUNDING SOURCE OR P.I.P. TYPE)	
		<input type="checkbox"/> CCO FUNDED PER CONTRACT <input type="checkbox"/> CCO FUNDED AS FOLLOWS	
PCE, Peter Siegenthaler, Prin TE	DATE	FEDERAL FUNDING SOURCE	PERCENT
DISTRICT PRIOR APPROVAL BY	DATE		
HQ (ISSUE & APPROVE) (TO PROCEED) BY	DATE		
Larry Salhaney			
RESIDENT ENGINEER SIGNATURE	DATE		

Memorandum

TO: Toll Bridge Oversight Committee (TBPOC) **DATE:** April 28, 2010

FR: Dina Noel, Assistant Deputy Director Toll Bridge Program, CTC

RE: Agenda No. - 3b4
Item Consent Calendar
Self-Anchored Suspension (SAS) Superstructure Contract
Change Order No. 110-S0: Mechanical, Electrical and Piping
(MEP)

Recommendation:
APPROVAL

Cost:

1. CCO 110-S0: \$4,916,210.00
2. System-wide corridor testing - Not to Exceed \$5,400,000.00
3. Corridor BASE System - \$0

Schedule Impacts:
None

Discussion:

CCO 110-S0

CCO 110-S0 in the amount of \$4,916,210 is necessary to provide for the installation of 15kV power cables, fiber optic communication cables, and appurtenances on the Skyway and Oakland Touchdown 1 structures. This CCO encompasses approximately 80% of the scope of work for this item. To complete the work, supplemental contract change orders will be issued at the appropriate time, see item 2B on the attached SFOBB MEP Integration Strategy.

The TBPOC, at the November 6, 2008 meeting, approved moving the installation of Mechanical, Electrical and Piping (MEP) items from the Skyway and OTD1 contracts to the SAS contract to enhance system compatibility and mitigate potential corridor delays. This implementation strategy was approved for a not to exceed amount of \$34.2 million, which included \$16.8 million to furnish light poles. The light poles procurement contract is anticipated to be executed in August 2010 and it is being managed by the Bay Area Toll Authority.

System Wide Corridor Testing

This work estimated at a cost not to exceed \$5,400,000, see Item C on the attached SFOBB MEP Integration Strategy, will provide for system wide testing of the MEP components along the entire SFOBB corridor subsequent to their installation.

Approval of this work was deferred at the November 6, 2008 TBPOC meeting pending a determination of which contract the work would be performed on. It is now recommended that the TBPOC approve a cost not to exceed \$5,400,000 to allow for detailed planning and development of this work to begin within the SAS contract. A future change order will be requested in order to incorporate the actual testing into the contract.

Corridor BASE System

BATA has agreed to pay for the implementation of the corridor BASE system, estimated at \$7,800,000 (see Item D on the attached SFOBB MEP Integration Strategy) using bridge rehabilitation funds and not funding from the Seismic Retrofit Program.

General MEP matters

Impacts that may result from a potential soft opening of the new SFOBB east span have not been determined and are not included in any cost estimates for the MEP Integration work.

Attachment(s):

1. SFOBB MEP Integration Strategy Spreadsheet
2. DRAFT CCO: 110
3. DRAFT CCO Memorandum: 110

SFOBB MEP Integration Strategy (CONFIDENTIAL)

4/12/2010

	Segregation of Work	Approximate Costs	Status of Work (as of April 2010)
A	Furnish Light Poles & Fixtures (BATA Contract)		BATA Contract
ITEM 1A	Furnish Light Poles & Fixtures (estimate is done by Caltrans Design)	\$15,300,000.00	· Lowering device eliminated, January 2010. · Revised drawing, May 2010 · Procurement contract, August 2010.
ITEM 2A	Storage Cost	\$1,500,000.00	· Estimated \$3M in cost savings & 3 to 6 months in time savings as a result of eliminating the lowering device.
	Contingency (Included in the above)		
	Total Estimated Cost To Furnish Light Poles & Fixtures (BATA Contract)	\$16,800,000.00	Approved by TBPOC (Nov. 2008) to be a separate contract
B	MEP Integration Work Installation (Proposed CCO to SAS)		
ITEM 1B	Install Light Poles (Skyway and OTD1)	\$2,000,000.00	Issue CCO to install the poles within the Skyway & OTD1 project limits, Fall 2011. All other poles will be installed by individual original contracts.
ITEM 2B	Installation of MEP items eliminated from Skyway & OTD1	\$8,000,000.00	CCO # 110 at the cost of \$4,916,210 is being issued to cover 80% of the scope of this item. Supplements to CCO 110 will be issued to complete this item.
ITEM 3B	Upgrades & Revisions of the already installed components (Skyway & OTD1)	\$2,500,000.00	CCOs will be issued for this work in 2010 & 2011
ITEM 4B	Installation of BASE System (conduits & Cabinets within Skyway & OTD1)	\$2,000,000.00	CCOs will be issued for this work in 2010 & 2011
ITEM 5B	Contingency (20%)	\$2,900,000.00	
	Total Estimated Cost For Installation	\$17,400,000.00	Approved by TBPOC to be done as CCO to SAS Contract
	Total for Light Poles & MEP Integration Work (within Skyway & OTD1)	\$34,200,000.00	Approved by TBPOC in November of 2008
C	System Wide Testing (Entire Corridor) (Proposed future CCO to SAS)		Submitted to TBPOC in Nov. 2008, but not approved yet
ITEM 1C	System wide (Entire Corridor) testing, Relay Setting, SCADA development & commissioning	\$3,000,000.00	Testing criteria will be developed in 2011, CCO will be issued early 2012. PB / Caltrans are working on scope / design of SCADA software. CCO will be issued in 2011.
ITEM 2C	Resolution of system wide testing issues (for entire corridor)	\$1,500,000.00	The scope of this work will be determined after the system wide testing is done.
ITEM 3C	Contingency (20%)	\$900,000.00	
	Total Estimated Cost Of System wide Testing	\$5,400,000.00	Need to obtain TBPOC approval
D	Complete BASE System (Entire Corridor)		Added scope not submitted to TBPOC previously
ITEM 1D	Hardware (about 150 cameras, interface box and decoder for each camera / wiring)	\$3,000,000.00	Scope is been discussed with CHP and Maintenance.
ITEM 2D	Installation cost (Camera & Hardware)	\$1,500,000.00	The Architect has also been involved (location of cameras)
ITEM 3D	New dedicated fiber line in both structures with 2 loops (installed)	\$2,000,000.00	
ITEM 4D	Contingency (20%)	\$1,300,000.00	
	Total Estimated Cost for BASE System	\$7,800,000.00	Will be funded from BATA Rehab funds
	Total Additional Funds Needed	\$13,200,000.00	

CONTRACT CHANGE ORDER

Change Requested by: Engineer

CCO: 110 Suppl. No. 0 Contract No. 04 – 0120F4 Road SF-80-13.2/13.9 FED. AID LOC.:

To: **AMERICAN BRIDGE/FLUOR ENTERPRISES INC A JOINT VENTURE**

You are directed to make the following changes from the plans and specifications or do the following described work not included in the plans and specifications for this contract.

NOTE: This change order is not effective until approved by the Engineer.

Description of work to be done, estimate of quantities and prices to be paid. (Segregate between additional work at contract price, agreed price and force account.) Unless otherwise stated, rates for rental of equipment cover only such time as equipment is actually used and no allowance will be made for idle time. This last percentage shown is the net accumulated increase or decrease from the original quantity in the Engineer's Estimate.

Incorporate the electrical work from the Skyway and Oakland Touchdown eastbound and westbound structures and roadway as specified on Sheets No. **XXX** through **XXX** and as shown on Sheets No. **XXX** through **XXX** of this change order. All work shall be performed in accordance with the contract Special Provisions, Standard Specifications and Standard Plans.

This change includes, but is not limited to, the following items of work:

- 1) Furnish and install all 15kV cable to the limits shown on the plans. This work includes furnishing and installing all cable, splice cable trays and all appurtenances and includes performing all connections and splices as provided under this change.
- 2) Furnish and install all fiber optic cable to the limits shown on the plans. This work includes furnishing and installing all cable, splice cable trays and all appurtenances and includes performing all connections and splices as provided under this change.
- 3) Install all telephone cable to the limits shown on the plans and furnish and install all telephone terminal blocks and appurtenances as shown on the plans. This work includes performing all connections and splices as provided under this change.
- 4) Perform all connections of the grounding system as provided under this change.
- 5) Complete the installation of the 15kV, Non-Caltrans Utilities, TOS and 600 V cable trays including all appurtenances as provided under this change.
- 6) Furnish and install all components of the Supervisory Control and Data Acquisition Remote Terminal Unit System as provided under this change.
- 7) Identify, furnish and install all equipment name plates and labels as provided under this change.
- 8) Perform all inspection of the existing facilities as provided under this change.

The plans and specifications of this change order shall govern over the contract Special Provisions, Standard Specifications and Standard Plans where any conflict exists.

The following plan sheets shall be incorporated into the contract by this change order:

86S22, 86S23, 407a06S1, 407a06S2, 407a06S3, 407a06S4, 407a06S5, 407a06S6, 407a06S7, 407a06S8, 407a06S9, 407a06S10, 407a06S11, 407a06S12, 407a06S13, 407a06S14, 407a06S15, 407a06S16, 407a06S17, 407a06S18, 407a06S19, 407a06S20, 407a06S21, 407a06S22, 407a06S23, 407a06S24, 407a06S25, 407a06S26, 407a06S27, 407a06S28, 407a06S29, 407a06S30, 407a06S31, 407a06S32, 407a06S33, 407a06S34, 407a06S35, 407a06S36, 407a06S37, 407a06S38, 407a06S39, 407a06S40, 407a06S41, 407a06S42, 407a06S43, 407a06S44, 407a06S45, 407a06S46, 407a06S47, 407a06S48, 407a06S49, 407a06S50, 407a06S51, 407a06S52, 407a06S53, 407a06S54, 407a06S55, 407a06S56, 407a06S57, 407a06S58, 407a06S59, 407a06S60, 407a06S61, 407a06S62, 407a06S63, 407a06S64, 407a06S65, 407a06S66, 407a06S67, 407a06S68, 407a06S69, 407a08S1, 407a08S2, 407a08S3, 407a08S4, 407a08S5, 407a08S6, 407a08S7, 407a08S8, 407a08S9, 407a08S10, 407a08S11, 407a08S12, 407a08S13, 407a08S14, 407a08S15, 407a08S16, 407a08S17, 407a08S18, 407a08S19, 407a08S20, 407a08S21, 407a08S22, 407a08S23, 407a08S24, 407a08S25, 407a08S26, 407a08S27, 407a08S28, 407a08S29, 407a08S30, 407a08S31, 407a08S32, 407a08S33, 407a08S34, 407a08S35, 407a08S36, 407a08S37, 407a08S38, 407a08S39, 407a08S40, 407a08S41, 407a08S42, 407a08S43, 407a08S44, 407a08S45, 407a09S1, 407a09S2, 407a09S3, 407a09S4, 407a09S5, 407a09S6, 407a09S7, 407a09S9, 407a09S10, 407a09S11, 407a09S12, 407a09S13, 407a09S14, 407a09S15, 407a09S16, 407a09S17, 407a09S18, 407a09S19, 407a09S20, 407a09S21, 407a09S22, 407a09S23, 407a09S24, 407a09S25, 407a09S26, 407a09S27, 407a09S28, 407a09S29, 407a09S30, 407a09S31, 407a09S32, 407a09S33, 407a09S34, 407a09S35, 407a09S36, 407a09S37, 407a09S38, 407a09S39, 407a09S40, 407a09S41, 407a09S42, 407a09S43,

407a09S44, 407a09S45, 407a09S46, 407a09S47, 407a09S48, 407a09S49, 407a09S50, 407a09S51, 407a09S52, 407a09S53, 407a09S54, 407a09S55, 407a09S56, 407a09S57, 407a09S58, 407a09S59, 407a09S60, 407a09S61, 407a09S62, 407a09S63, 407a09S64, 407a09S65, 407a09S66, 407a09S67, 407a09S68, 407a09S69, 407a09S70, 407a09S71, 407a09S72, 407a09S73, 407a09S74, 407a09S75, 407a09S76, 407a09S77, 407a09S78, 407a09S79, 407a09S80, 407a09S81, 407a09S82, 407a09S83, 407a09S84, 407a09S85, 407a09S86, 407a09S87, 407a09S88, 407a09S89, 407a09S90, 407a09S91, 407a09S92, 407a09S93, 407a09S94, 407a09S95, 407a09S96, 407a09S97, 407a09S98, 407a10S1, 407a10S2, 407a10S3, 407a10S4, 407a10S5, 407a10S6, 407a10S7, 407a10S8, 407a10S9, 407a10S10, 407a10S11, 407a10S12, 407a10S13, 407a10S14, 407a10S15, 407a10S16, 407a10S17, 407a10S18, 407a10S19, 407a10S20, 407a10S21, 407a10S22, 407a10S23, 407a10S24, 407a10S25, 407a10S26, 407a10S27, 407a10S28, 407a10S29, 407a10S30, 407a10S31, 407a10S32, 407a10S33, 407a10S34, 407a10S35, 407a10S36, 407a10S37, 407a10S38, 407a10S39, 407a10S40, 407a10S41, 407a10S42, 407a10S43, 407a10S44 (of 1204).

Extra Work at Lump Sum Price:

For the work of this change, the Contractor will receive a lump sum price of **\$4,616,208.00**. Except for **excluded** costs as defined herein, this sum constitutes full and complete compensation for furnishing all labor, material, tools and incidentals, including all markups, by reason of this Change.

This lump sum provides compensation to the Contractor for all costs to be incurred in the performance of all work shown on the change order plans and specifications. Except for cost specifically mentioned herein, any indirect costs incurred as a result of this added scope of work to the Contract are excluded from this lump sum compensation and shall be compensated separately. These costs may include implementing traffic control measures, storm water pollution prevention measures, additional project safety measures or other indirect costs incurred as a result of the work added under this change order.

The compensation provided under this change order includes costs associated with confined space monitoring and testing to be performed by the Contractor as necessary to perform the work of this change. Should air ventilation be necessary, additional compensation shall be provided for the cost of providing this ventilation.

Following the installation and testing of all cables and equipment as provided for under this change order and upon the Department's review and approval of these installed components, the Department shall grant the Contractor relief of maintenance and responsibility of this work in accordance with Section 7-1.15 of the Standard Specifications.

Cost of Extra Work at Lump Sum Price\$4,616,210.00

Extra Work at Force Account:

Provide additional diagnostic testing of the existing electrical systems beyond the scope specified and shown under this change order as determined by the Engineer.

Cost of Extra Work at Force Account\$300,000.00

Estimated Cost: Increase ☒ Decrease ☐ **\$4,916,210**

By reason of this order the time of completion will be adjusted as follows: 0 days

Submitted by

Signature	Resident Engineer	William Shedd for Gary Pursell, Sup.T.E.	Date
------------------	--------------------------	--	-------------

Approval Recommended by

Signature	Supervising Transportation Engineer	Gary Pursell, Sup.T.E.	Date
------------------	--	------------------------	-------------

Engineer Approval by

Signature	Principal Transportation Engineer	Peter Siegenthaler, Sup.T.E.	Date
------------------	--	------------------------------	-------------

We the undersigned contractor, have given careful consideration to the change proposed and agree, if this proposal is approved, that we will provide all equipment, furnish the materials, except as otherwise be noted above, and perform all services necessary for the work above specified, and will accept as full payment therefore the prices shown above.

NOTE: If you, the contractor, do not sign acceptance of this order, your attention is directed to the requirements of the specifications as to proceeding with the ordered work and filing a written protest within the time therein specified.

Contractor Acceptance by

Signature	(Print name and title)	Date
------------------	------------------------	-------------

CONTRACT CHANGE ORDER MEMORANDUM

DATE: 4/12/2010

Page 1 of 2

DC-CEM-4903 (OLD HC-39 REV. 6/93) CT# 7541-3544-0

TO Peter Siegenthaler, Principal TE			FILE 04-0120F4	
FROM Gary Pursell, STE			04-SF-80-13.2/13.9	
CCO NO. 110	SUPPLEMENT NO. 0	CATEGORY CODE CBPC	CONTINGENCY BALANCE (including this change) \$67,005,863.40	
\$4,916,210.00			HEADQUARTERS APPROVAL REQUIRED? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
SUPPLEMENTAL FUNDS PROVIDED \$ 0			IS THIS REQUEST IN ACCORDANCE WITH ENVIRONMENTAL DOCUMENTS? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
CCO DESCRIPTION: MEP Integration			PROJECT DESCRIPTION CONSTRUCT SELF-ANCHORED SUSPENSION BRIDGE	
Original Contract Time 2490 Day(s)	Time Adj.: This Change 0 Day(s)	Previously Approved CCO Time Adjustments 227 Day(s)	Percentage Time Adjusted: (including this change) 9 %	Total # of Unreconciled Deferred Time CCO(s): (including this change) 6

THIS CHANGE ORDER PROVIDES FOR:

The integration of electrical utilities from adjacent contracts into this contract.

This contract provides for the construction of the signature Self-Anchored Suspension (SAS) structure of the new east span of the San Francisco Oakland Bay Bridge (SFOBB). The new east span consists of 6 major projects, the SAS contract, the Skyway contract that comprises the majority of the span, two Oakland Touchdowns contracts (OTD1 & OTD2) at the east end of the span and the two Yerba Buena Island Transition structure (YBITS1 & YBITS2) at the west end of the span.

The Department issued an October 29, 2008 memo to implement a strategy of integrating the mechanical, electrical and piping (MEP) utilities from the Skyway and OTD1 contracts into the SAS contract. This integration was proposed in order to mitigate risks to the opening of the new span and to enhance system compatibilities throughout the structure. This strategy was presented to and approved by the Toll Bridge Program Oversight Committee (TBPOC) in November of 2008. This change order provides for the implementation of a portion of this MEP integration strategy.

The major components of the MEP system include a 12 kV electrical cable, fiber optic cables, bridge and navigational lighting, call boxes, closed circuit television, a microwave vehicle detection system, a traffic operation system (TOS) and a supervisory control & data acquisition (SCADA) system. This work has previously been eliminated from the Skyway and OTD1 contract via change orders within those contracts. This change provides for the integration of the 12 kV electrical cable, the fiber optic cables, the TOS and the SCADA system from the Skyway and OTD1 contracts into this contract. The integration of the remaining MEP components shall be addressed under separate change orders.

The major costs associated with this change order include furnishing and installing over 15,000 meters of 12 kV cable and approximately 13,000 meters of fiber optic cable over the entire length of the Skyway and OTD1 contracts. Additional costs include installing telephone cable, furnishing and installing hardware components for the TOS and SCADA system and installing additional cable trays.

The change order also provides for diagnostic testing of the existing electrical systems that goes beyond the scope shown on the change order plans and specifications.

Compensation for the work provided for under the plans and specifications shall be paid as extra work at an agreed lump sum of **\$4,616,210.00**. The additional diagnostic testing of the existing electrical system shall be paid as extra work at force account at an estimated cost of \$300,000.00. The total estimated change order cost of **\$4,916,210.00** shall be funded from the contingency funds allotted to this contract. A cost estimate is on file.

This lump sum provides compensation to the Contractor for all costs to be incurred in the performance of all work shown on the change order plans and specifications. Any indirect costs incurred as a result of this added scope of work to the Contract are excluded from this lump sum compensation and shall be compensated separately. These costs may include implementing traffic control measures, storm water pollution prevention measures, additional project safety measures or other indirect costs incurred as a result of the work added under this change order.

No adjustment of contract time is warranted as the work shall not affect the controlling operation.

CONTRACT CHANGE ORDER MEMORANDUM

DATE: 4/12/2010

Page 2 of 2

DC-CEM-4903 (OLD HC-39 REV. 6/93) CT# 7541-3544-0

CONCURRED BY:		ESTIMATE OF COST	
CONSTRUCTION ENGINEER Res. Eng. Gary Pursell, Sup. TE	DATE	THIS REQUEST	TOTAL TO DATE
SR. BRIDGE ENGINEER Rick Morrow, Struct. Rep.	DATE	ITEMS	\$0.00
FHWA REPRESENTATIVE	DATE	FORCE ACCOUNT	\$300,000.00
PROJECT MANAGER Proj. Manager, Ken Terpstra	DATE	AGREED PRICE	\$4,616,210.00
OTHER (SPECIFY)	DATE	ADJUSTMENT	\$0.00
HQ Oversight, Rich Foley		TOTAL	\$4,916,210.00
Design of Record		FEDERAL PARTICIPATION	
OSCM, Wenyi Long (Design Oversight)		<input type="checkbox"/> PARTICIPATING <input type="checkbox"/> PARTICIPATING IN PART <input checked="" type="checkbox"/> NONE <input type="checkbox"/> NON-PARTICIPATING (MAINTENANCE) <input type="checkbox"/> NON-PARTICIPATING	
OSM&I, Lina Ellis (Maintenance)			
Peter Siegenthaler, Prin TE	DATE	FEDERAL SEGREGATION (IF MORE THAN ONE FUNDING SOURCE OR P.I.P. TYPE)	
DISTRICT PRIOR APPROVAL BY	DATE	<input type="checkbox"/> CCO FUNDED PER CONTRACT <input type="checkbox"/> CCO FUNDED AS FOLLOWS	
HQ (ISSUE & APPROVE) (TO PROCEED) BY	DATE	FEDERAL FUNDING SOURCE	PERCENT
RESIDENT ENGINEER SIGNATURE	DATE	_____	_____
		_____	_____
		_____	_____

TO: Toll Bridge Program Oversight Committee **DATE:** April 28, 2010
(TBPOC)

FR: Jon Tapping, Risk Management Coordinator, Caltrans

RE: Agenda No. - 4a
Program Issues
Draft 2010 First Quarter Risk Management Report

Recommendation:

For Information Only

Cost:

N/A

Schedule Impacts:

N/A

Discussion:

The San Francisco-Oakland Bay Bridge Risk Management Coordinator will present a summary of the Q1 2010 draft Risk Management Report (attached). The presentation will focus mainly on Q1 2010 cost risk results, schedule risk response actions, and a look ahead to Q2 2010 risk management developments.

Attachment(s):

Q1 2010 Draft Risk Management Report

TOLL BRIDGE SEISMIC RETROFIT PROGRAM

Risk Management Report

1st Quarter 2010

Pending
Approval





TOLL BRIDGE SEISMIC RETROFIT PROGRAM

RISK MANAGEMENT REPORT

1st Quarter 2010

March 31, 2010

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Prepared by CALTROP Corporation

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1 INTRODUCTION

Assembly Bill (AB) 144, signed into law on July 18, 2005, authorized the Department of Transportation (Department) to develop and implement an expanded comprehensive risk management plan for the Toll Bridge Seismic Retrofit Program (TBSRP) to augment the established risk management protocols and mitigation measures already in place.

The Antioch and Dumbarton bridge retrofit projects were incorporated into the TBSRP effective January 1, 2010 as per AB 1175. The two projects add their respective risks to the program as well as creating a step increase in the Program Contingency.

The Quarterly Risk Management Report (QRMR) summarizes risk management for each contract. It includes risk developments in the current quarter, risk management activities, risk management cost (RMC), RMC trend, and a look-ahead to next quarter. The Antioch and Dumbarton contracts were added this quarter.

The QRMR also includes sections for the potential draw on Program Contingency, the Corridor Schedule, program-level risks (not assigned to a particular contract) and Capital Outlay Support risks. This report is based on details in the related report: *Risk Management Documentation*.

The QRMR supports summary risk management information that is included in other TBSRP reports. Among these are the monthly report to the Toll Bridge Program Oversight Committee (TBPOC) and the quarterly TBPOC report to the California Legislature.

ABBREVIATIONS USED IN THIS REPORT

ABF	American Bridge Fluor Joint Venture
BATA	Bay Area Toll Authority
CCO	Contract Change Order
COS	Capital Outlay Support
CST	Corridor Schedule Team
ISD	Integrated Shop Drawings
NOPCs	Notices of Potential Claims
OBG	Orthotropic Box Girder
OTD 1	Oakland Touchdown #1 (Westbound) Contract
OTD 2	Oakland Touchdown #2 (Eastbound) Contract
PS&E	Plans, Specifications and Estimate
QRMR	Quarterly Risk Management Report
RMC	Risk Management Cost
SAS	Self Anchored Suspension Contract
TBPOC	Toll Bridge Program Oversight Committee
TBSRP	Toll Bridge Seismic Retrofit Program
YBID	YBI Detour
YBITS 1	YBI Transition Structures #1 Contract
YBITS 2	YBI Transition Structures #2 Contract

2 POTENTIAL DRAW ON PROGRAM CONTINGENCY

2.1 TOTAL RISK MANAGEMENT COST AND TOTAL CONTINGENCY

The total contingency available to cover all risks of the program comprises the contingency available from all contracts, plus the current balance in the Program Contingency. Each contract in design has an assigned contingency allowance. A contract in construction has a remaining contingency that is the difference between its budget and the sum of Bid Items, State Furnished Materials, Contract Change Orders (CCOs) and Remaining Supplemental Work. COS has no contingency allowance. Contract contingencies are reported quarterly by Program Management to the Risk Management Team. The following table shows the changes in contingencies from the previous quarter.

	Q1 2010	Q4 2009	Change
1. Contingency Available from East Span Contracts (\$M)	235.3	279.7	(44.4)
2. Contingency from Antioch & Dumbarton Contracts (\$M)	224.5	-	224.5
3. Program Contingency Balance (\$M)	948.3	758.3	190.0
4. Total Contingency (\$M)	1,408.1	1,038.0	370.1

Contingency available from East Span contracts decreased by \$44.4 million due to \$33.4 million in contract change orders and increases in the estimates for the YBITS 2 and OTD 2 contracts. Program Contingency increased by \$190 million transferred from the Antioch and Dumbarton contracts. Total contingency increased by \$370.1 million.

The 1st Quarter 2010 total Risk Management Cost (RMC) is virtually unchanged from the previous quarter even with the addition of the Antioch and Dumbarton contracts. The respective RMC curves are shown in Figure 1 with Total Contingency for reference.

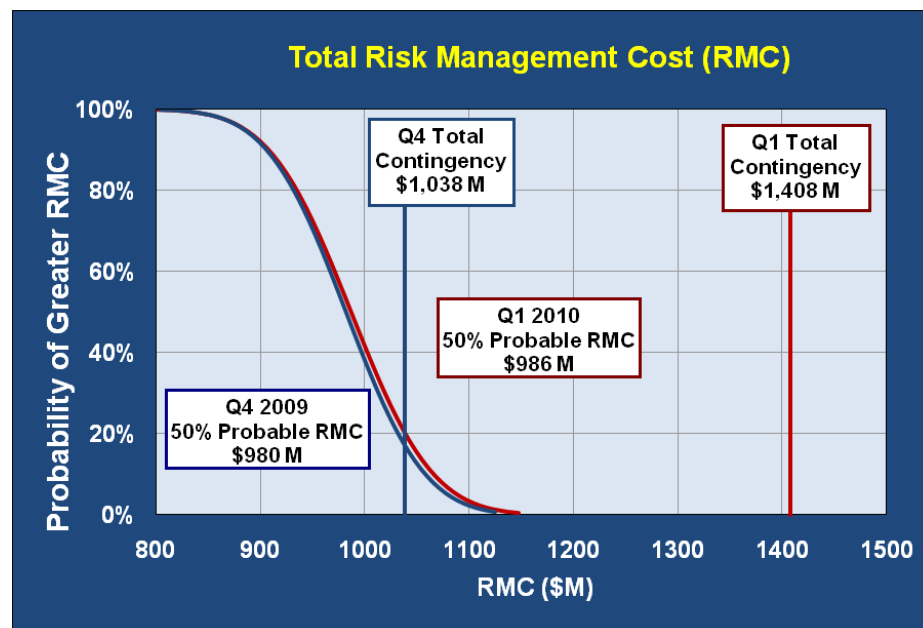


FIGURE 1 – RISK MANAGEMENT COST AND TOTAL CONTINGENCY

The total contingency is currently sufficient to cover the costs of identified risks.

2.2 POTENTIAL DRAW ON PROGRAM CONTINGENCY

The risk management process calculates the potential draw on program contingency each quarter, and compares it to the current balance in the Program Contingency¹. The potential draw curve in Figure 2 is obtained by subtracting the total contingency available from contracts (items 1 in the above table) from the RMC curve in Figure 1.

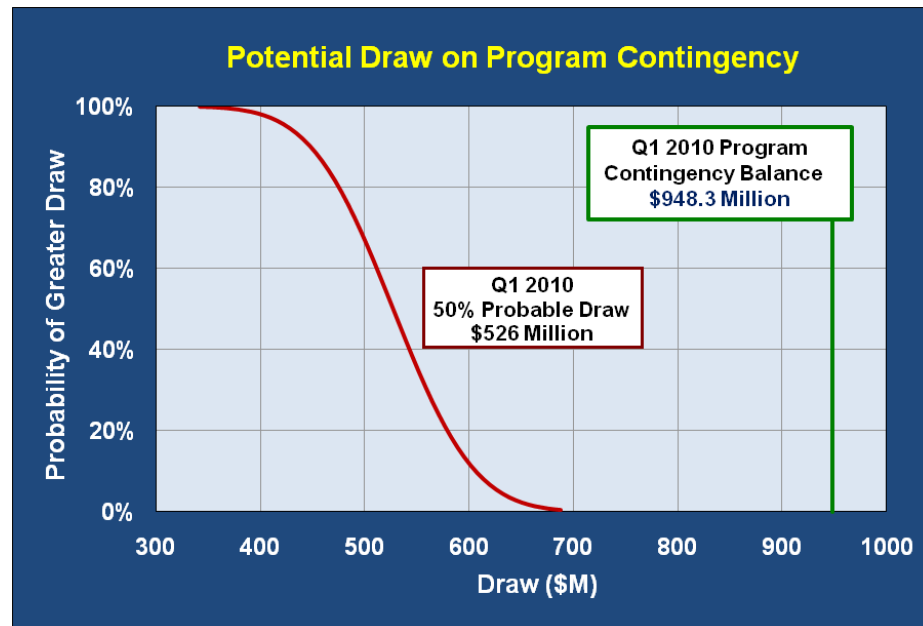


FIGURE 2 – POTENTIAL DRAW ON PROGRAM CONTINGENCY

As of the end of the 1st quarter 2010, the 50% probable draw on Program Contingency is \$526 million. The potential draw ranges from about \$300 million to \$700 million².

The \$948.3 million Program Contingency balance can be used to cover the costs of identified risks.

Risk mitigation actions are continuously developed and implemented to reduce the potential draw on the Program Contingency.

Out-of-Scope Program Risks: Program risks *do not include* the approximately \$50 – 80 million cost of risks that are outside the scope and budget of the program (i.e. Light Pipe, BASE System, and potential indirect impacts resulting from the City of San Francisco’s YBI Ramp project).

¹ The Program Contingency funds could be used for other beneficial purposes than to cover risks. The potential draw chart should not be construed as a forecast of the future balance of Program Contingency funds.

² See A.3 *Interpreting Risk Curves* for an explanation of the curve and “range”.

2.3 PROGRAM CONTINGENCY TREND

The Quarterly Risk Management Report has reported the potential draw on the Program Contingency since the 1st quarter of 2007. Figure 3 shows the trend through the current quarter.

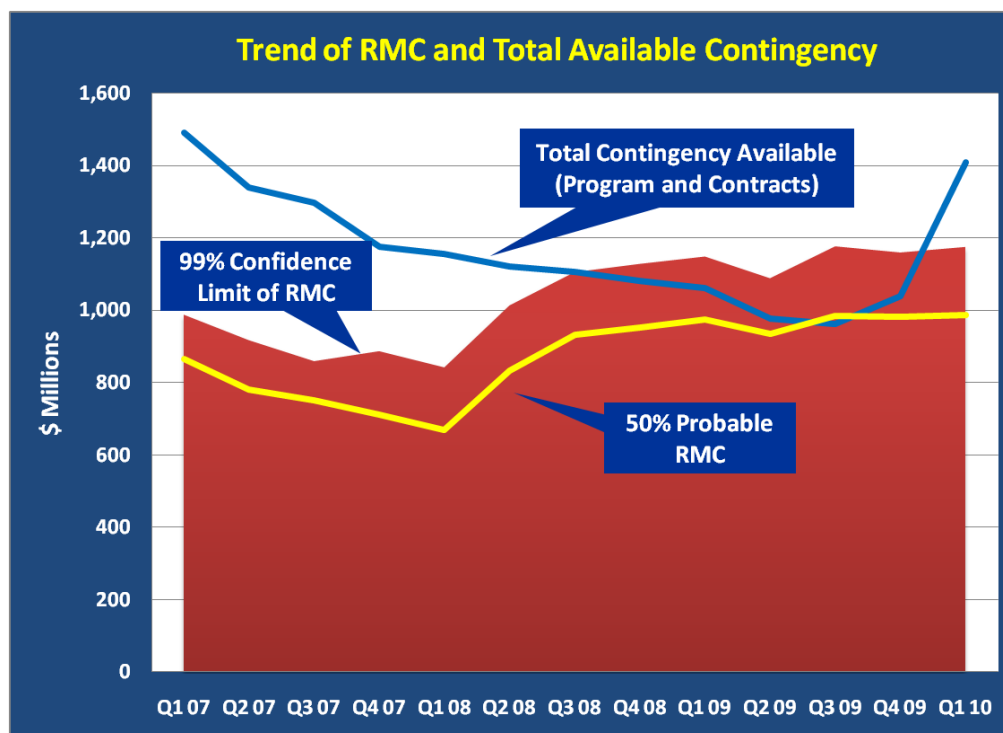


FIGURE 3 – PROGRAM CONTINGENCY TREND

The solid area depicts the range of potential draw that covers about 99% of all possible outcomes. There are possible outcomes beyond this range, but their probability is very small.

The 50% probable RMC did not change from the previous quarter and the total contingency increased by \$370.1 million.

3 CORRIDOR SCHEDULE

3.1 INTRODUCTION

The Corridor Schedule Team (CST) developed an intermediate level schedule for the Corridor (East Span) to be used in evaluating schedule risk and recovery opportunities. The Corridor Schedule is a summarization of the contract schedules submitted by the various contractors and schedules developed by the Department for the contracts in design.

In the 1st quarter 2009 the CST and the Risk Management Team reported opportunities to mitigate potential delays in the SAS contract. The Teams update the opportunities each quarter upon receipt of the SAS Contractor's Schedule Update, and look for other opportunities to achieve seismic safety as soon as possible.

ABOUT SCHEDULE RISK

It is important to remember that the dates to achieve seismic safety are objectives, not certainties. A cost estimate is not a certainty and thus needs a contingency allowance to determine a budget that has an acceptable probability of being adequate. Similarly, a schedule is an estimate of time required and should have a time contingency to set a completion target date that has an acceptable probability of being realized. In each case, the contingency is intended to cover the risks.

Efforts are underway to accelerate the remaining work to achieve seismic safety as early as possible. Compressing or accelerating the schedule removes most, if not all, of the time contingency. If any critical activity (one on the longest path) requires additional time, the accelerated target dates will not be realized without taking additional mitigating actions. East End fabrication and erection, cable installation and load transfer are on the longest path. All of these activities are complex and challenging – to squeeze the time available also increases the probability of something not going according to plan.

Here's how the probabilities work: The basic rule is that to calculate the probability of A and B happening, one must multiply their probabilities.

For example, suppose that each of the four activities on the longest path has a 95% chance of completing within its estimated time. The probability that all four activities will complete within their respective estimated times is determined by multiplying 0.95 by itself four times, which equals 0.81. This means that there is an 81% chance of on-time completion, and a 19% chance of being late. Reduce the 95% chance per activity to 90% and the probability of on-time completion reduces to 66%; a 34% chance of being late. This does not calculate how late it might be; that is determined from the schedule risk analysis (Section 3.4), which considers the probability and potential impact of schedule risks inserted into the schedule logic.

SCHEDULE RISK ANALYSIS PROCESS

The schedule risk analysis process inserts risk activities into the schedule and adds uncertainty onto some schedule activity durations¹. When placing uncertainty onto the duration of an activity,

¹ See Appendix A.4 A.4for a description of how risks are inserted into the Corridor Schedule.

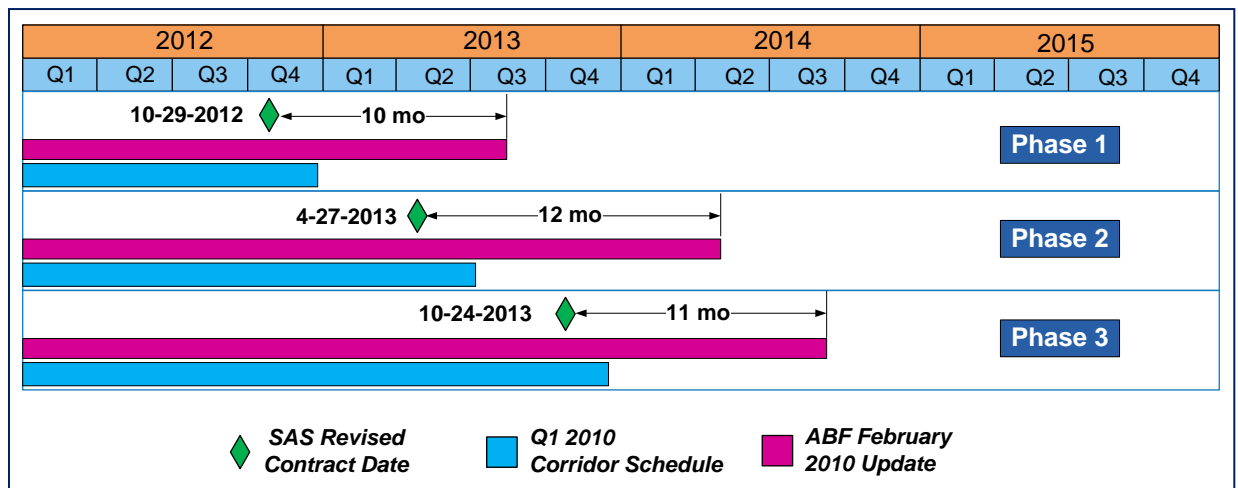
the activity can possibly underrun its remaining duration (an opportunity) or possibly require more time.

The schedule risk analysis simulation is run after delay risks are inserted into the Corridor Schedule. The analysis produces a probability distribution for the milestones of each contract, and the milestones for westbound and eastbound opening. The schedule risk analysis results are used to update the potential delay costs in the contract and program-level risk registers.

3.2 CORRIDOR SCHEDULE STATUS

The ABF February 2010 Update Schedule for the SAS contract projects a contract completion date 11 months later than the current contract dates. This translates into up to 11 months potential delay in achieving seismic safety (eastbound open).

In previous quarters, the CST and the Risk Management Team jointly identified opportunities to mitigate the overall SAS contract schedule impacts due to delays in producing shop drawings and fabricating the East End¹. Most of the opportunities are during field construction and include re-sequencing concurrent work and redefining SAS Phase completion requirements.



Phase 1 – Load transfer complete and area west of W2 turned over to the YBITS 1 contractor.

Phase 2 – SAS ready for westbound traffic

Phase 3 – SAS ready for eastbound traffic.

FIGURE 4 – ABF AND CORRIDOR SCHEDULE COMPARED

The ABF February 2010 Update schedule shows Phase 1, 2 and 3 completions 10, 12 and 11 months later than the revised contract dates. The Corridor Schedule has slipped 2-3 months since the last quarter due to revised estimates for the completion of East End fabrication. Currently, the Corridor Schedule incorporates opportunities to recover approximately nine months of the delays reflected in the ABF February 2010 update.

¹ The term “East End” refers to Lifts 12-14 of the Orthotropic Box Girder (OBG).

Previously, the completion of East End fabrication was forecast for March 2011. The forecast was revised following discussions with ABF and the fabricator during recent visits to China. The current forecast for East End shipment is in late 2011, with possible acceleration to July 2011. The current Corridor Schedule assumes shipment in July 2011, with uncertainty extending to the end of 2011.

RECOVERY OPPORTUNITIES INCORPORATED INTO THE CORRIDOR SCHEDULE

During the development and update of the Corridor Schedule, the CST and Risk Team incorporated several opportunities and assumptions into the Corridor schedule. While some of the recovery opportunities are in the East End fabrication, most of the recovery opportunities are in the construction phase of the SAS contract. They include re-sequencing certain work activities to better reflect concurrent work and redefining SAS Phase completion requirements. These opportunities resulted in a Corridor Schedule with SAS milestone completion two to three months later than the current contract dates.

The major opportunities, assumptions and changes incorporated into the Corridor Schedule are listed below.

1. Accelerated completion of the OBG East End shop drawings
 - Co-location at Candraft
 - Implemented by incentive CCO 123 S1
2. Overlapping of the OBG East End shop drawings, translation and fabrication activities
 - Mobilized East End Team to China
 - Plate cutting started prior to translation completion
3. Assumed accelerated fabrication of the OBG Lifts 13 and 14
 - Procure additional shop space
 - Assemble a whole lift and paint it in the shop bay
 - Obtain and train additional welders
4. Additional shipments of permanent steel
 - Separate OBG Lift 11 from Lift 12 shipment
5. Early shipment of the tower template to San Francisco
 - Tower footing can be prepared before the Tower Lift 1 arrives
 - A second footing template has been fabricated and has been shipped to San Francisco in January 2010.
 - Footing template has been successfully fitted over the footing
6. Shorten cable installation work
 - Earlier start of the cable temporary works
 - Overlap cable temporary works with OBG erection
 - Use additional shift work to accelerate cable installation operations
 - Obtain additional equipment
7. Modify cable completion activities after load transfer
 - Overlap activities
 - Obtain additional equipment

8. Assumed revised sequence of MEP operations
9. Assumed re-defined scope of work for Phase completions
 - Phase 1 (turn over area to YBITS 1 contractor)
 - Leave temporary towers A, B and C in place until after bridge opening
 - Postpone cable shrouds and W2 dehumidification system
 - Phases 2 and 3 (ready for traffic)
 - Allow lane closures after traffic is on the westbound bridge
 - Postpone completion of some MEP work until after traffic opening
 - Could extend SAS contract completion to achieve earlier seismic safety.
10. Coordinate SAS and YBITS 1 schedules to allow both contractors to have access to the Hinge K area and facilitate completion of Hinge K
11. At westbound opening, allow a full bridge closure to facilitate demolition of existing structures by the OTD 2 contractor

Most of the opportunities have not yet been confirmed with, nor implemented by, the SAS contractor. Some of these adjustments required an increase in risk to scheduled activity durations.

3.3 CORRIDOR SCHEDULE CRITICAL PATHS

A primary critical path has no float – it is the longest path. Any delay to an activity on a critical path will delay the completion milestones. Secondary and tertiary paths, while not on the longest path, are close enough that they could move onto the primary path as the project progresses.

Over time different paths will progress at different paces and the current absolute critical path may change. This is especially true for large projects with long schedules. It is imperative that management and the project team focus not only on the current critical path but also on the near-critical paths. Maintaining focus on the near-critical paths allows the management team to identify potential delays and take the appropriate mitigation actions.

PATHS TO LOAD TRANSFER

Completion of the SAS load transfer is a key milestone to completing the SAS and YBITS 1 leading to opening the bridge to traffic. There are three critical paths to load transfer as shown in Figure 5.

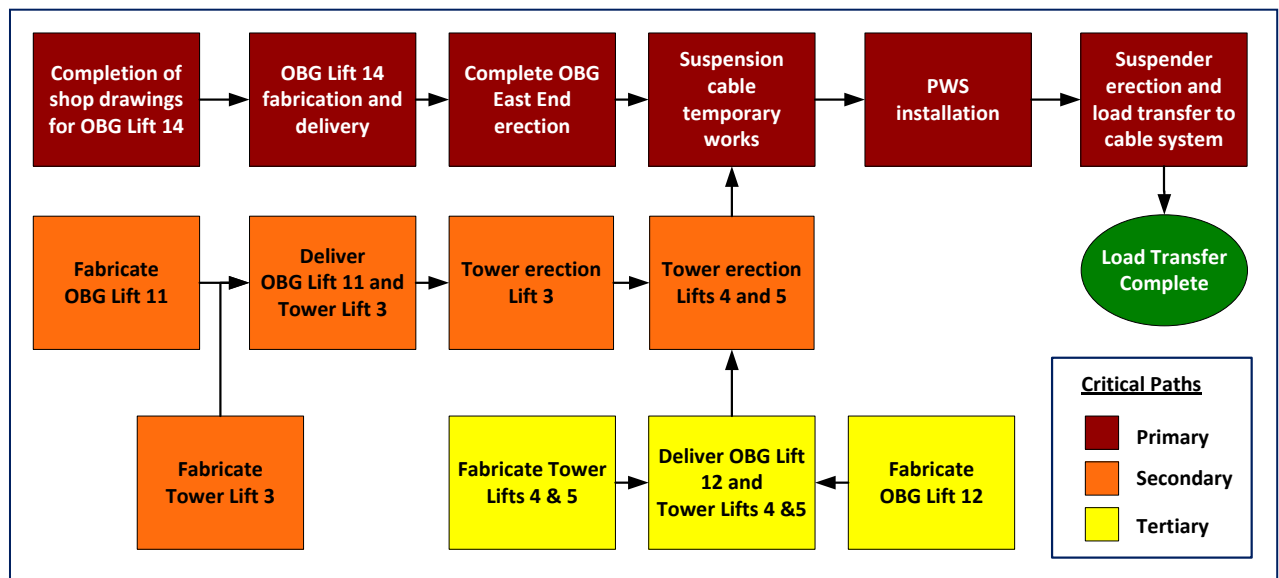


FIGURE 5 – CRITICAL PATHS TO LOAD TRANSFER

For the SAS contract, the most critical path to load transfer includes the OBG Lift 13 and 14 shop drawings, fabrication, and erection followed by the cable temporary works, PWS (cable) installation, and suspender installation.

The secondary and tertiary paths include the erection of Tower Lifts 3, 4 and 5, which are constrained by the fabrication and delivery of the respective lifts. Tower Lift 3 is planned to be on a voyage with OBG Lift 11 and Tower Lifts 4 and 5 are planned to be on a voyage with OBG Lift 12.

Departure from China of both of these voyages is controlled by the respective OBG lift fabrication. In secondary and tertiary paths, the tower lifts are ready for shipment several months ahead of the OBG. There is a possibility to resequence the voyage cargo to accelerate the tower lift deliveries. This would reduce the risk of the tower erection controlling the cable erection. However, with the uncertainty in the fabrication schedule, progress should be closely monitored before any decision is made to re-sequence deliveries.

All tower erection must be completed before starting the cable system temporary works. The OBG sections through Lift 6E must be erected before setting Tower Lift 1.

PATHS FROM LOAD TRANSFER TO WESTBOUND OPENING

SAS load transfer leads to opening the bridge in the westbound direction. The critical paths from load transfer to westbound opening are shown in Figure 6.

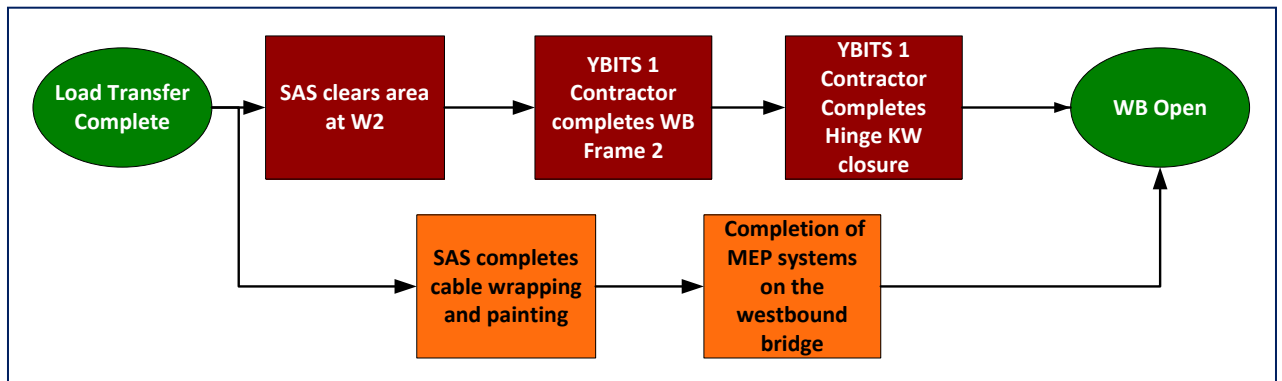


FIGURE 6 – CRITICAL PATHS FROM LOAD TRANSFER TO WESTBOUND OPENING

On the primary path, once load transfer is completed the SAS contractor removes the temporary works at W2 and clears the area for the YBI Transition Structures (YBITS 1) contractor to complete the westbound frame 2 and the Hinge K closure.

On the secondary path, the SAS contractor has to complete the cable wrapping and painting, and the electrical and mechanical systems must be completed on the westbound bridge.

The Westbound Opening milestone is driven by the YBITS 1 contract, with the SAS contract work finishing about one month prior. This difference is so small that either contract could be the driver and decisions to adjust the SAS contract schedule should also consider the effects on the YBITS 1 contract schedule.

PATHS FROM WESTBOUND OPENING TO EASTBOUND OPENING

Since a portion of the existing westbound bridge and roadway is in conflict with the new eastbound structure and roadway, traffic must be transferred to the new westbound structure prior to completion of the eastbound bridge and approach. Once traffic is switched to the new westbound bridge, the critical paths to opening eastbound traffic are shown in Figure 7. They have not changed from the previous quarter.

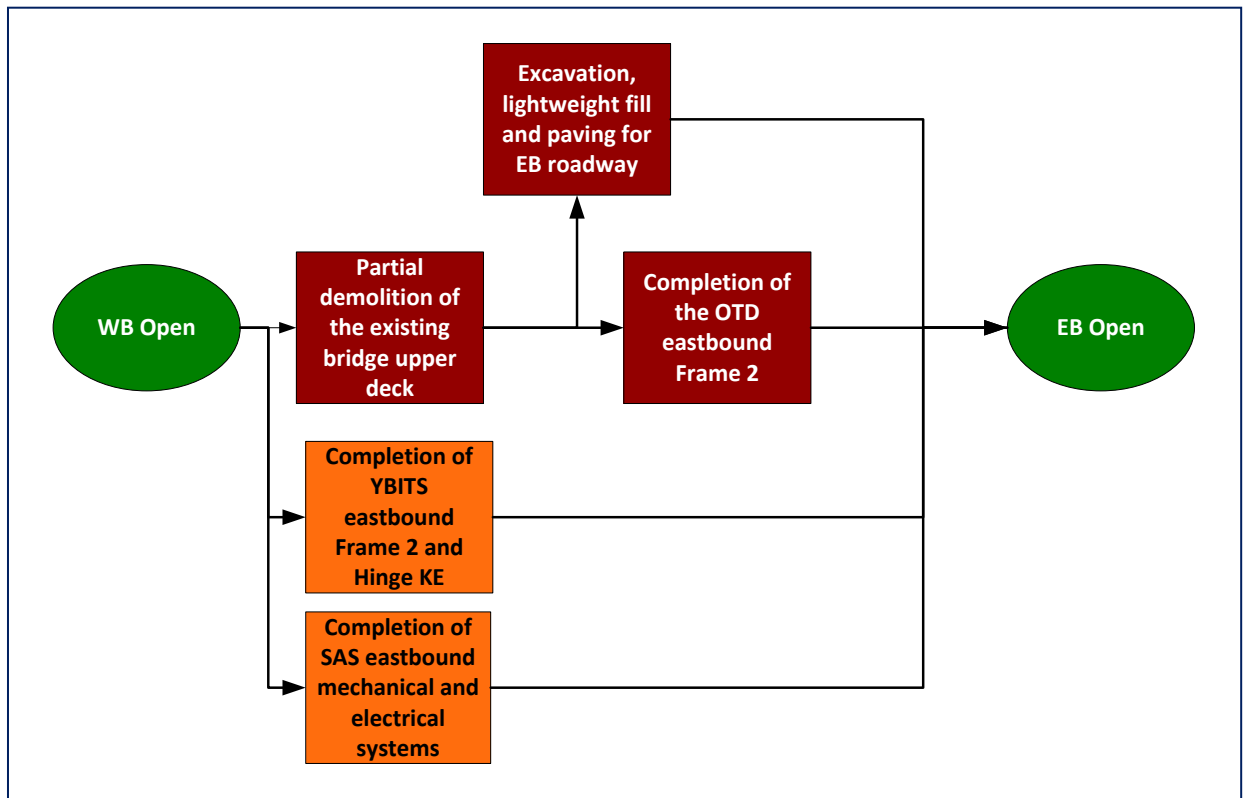


FIGURE 7 – CRITICAL PATHS FROM WESTBOUND OPENING TO EASTBOUND OPENING

On the primary path, partial demolition of the existing bridge upper deck is followed by completion of the Oakland Touchdown Eastbound (OTD 2) Frame 2 and roadway excavation, lightweight fill and paving for the eastbound roadway. Completion of the YBITS eastbound Frame 2 and Hinge KE and SAS eastbound mechanical and electrical systems are secondary paths to opening the eastbound bridge to traffic.

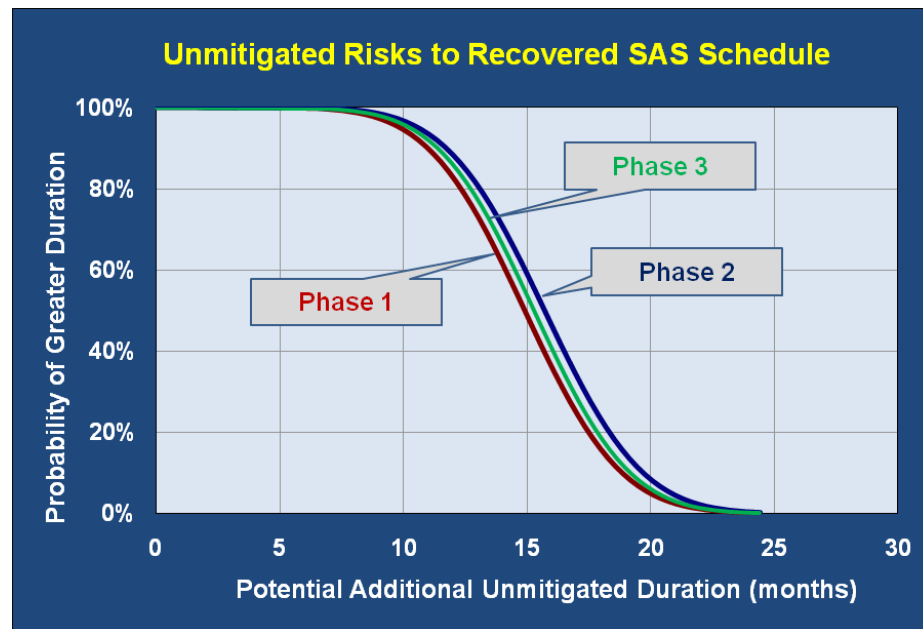
The eastbound opening milestone is driven by the OTD 2 contract, with the YBITS 1 and SAS contracts finishing 2-3 months prior. Decisions to adjust the SAS contract schedule should consider the effects on the YBITS 1 and OTD 2 contracts. Any decision should not focus solely on the SAS contract even though it is the one that is currently behind schedule. Lessons learned from the Oakland Touchdown Westbound (OTD 1) and YBI Detour (YBID) contracts will be used to reassess OTD 2 contract risks, and may change the risks in the OTD 2 schedule and the driver of eastbound opening.

3.4 SCHEDULE RISK ANALYSIS RESULTS

The schedule risk analysis results outlined below are expressed as potential additional duration from the current approved milestones for the SAS contract and opening westbound and eastbound to traffic. It is important to understand that the risks in the recovered Corridor Schedule are as yet unmitigated. The unmitigated risks are those that the project team believes could impact the recovered Corridor Schedule. Various teams are working diligently to reduce the probability of these risks occurring, and preparing response plans to minimize their impact should they occur.

SAS CONTRACT

The results for the SAS schedule milestones are shown in Figure 8. The potential additional duration is measured from the current SAS contract dates, and assumes that the nine months of recovery opportunity from the contractor's schedule update is fully realized. Otherwise, the potential additional duration will increase by the number of months not recovered.



Phase 1 – Load transfer complete and area west of W2 turned over to the YBITS 1 contractor.

Phase 2 – SAS ready for westbound traffic

Phase 3 – SAS ready for eastbound traffic.

FIGURE 8 – UNMITIGATED RISKS TO RECOVERED SAS SCHEDULE

The schedule risks to Phase 1 govern the additional duration in the SAS and bridge opening schedule. They include the fabrication of the East End (Lifts 13 and 14), erection of the OBG East End lifts, suspension cable system installation and load transfer.

Teams are actively engaged in each of these areas to mitigate these risks to the greatest extent possible. East End schedule risk mitigation measures include:

- Forming a team of key personnel to resolve shop drawing issues promptly,
- Providing additional training to welders on critical welds in the East End, and,
- Building models to identify challenging areas and work procedures in the East End fabrication.

With respect to the cable installation and load transfer, the Cable Erection Risk Management (CERM) team has been meeting regularly for the past three years to resolve potential cable issues and many of their recommendations have already been implemented. Additional measures under consideration include:

- Investigating methods to begin installation of the cable temporary works before the OBG erection is completed,
- Minimizing the number of splices in the cable,
- Changing the load transfer sequence to mitigate the potential for cable kinking, and,
- Procuring additional equipment for compaction and cable wrapping.

The results of their efforts will be used to update the schedule risks in future reports.

WESTBOUND AND EASTBOUND OPENING

The westbound and eastbound milestones are when the bridge opens to traffic in the respective directions. Seismic safety will be achieved at the eastbound opening milestone.

The risk analysis results for the two milestones are shown in Figure 9. The potential additional duration is measured from the current approved dates, and assumes that the 9 months of SAS recovery opportunity is fully realized.

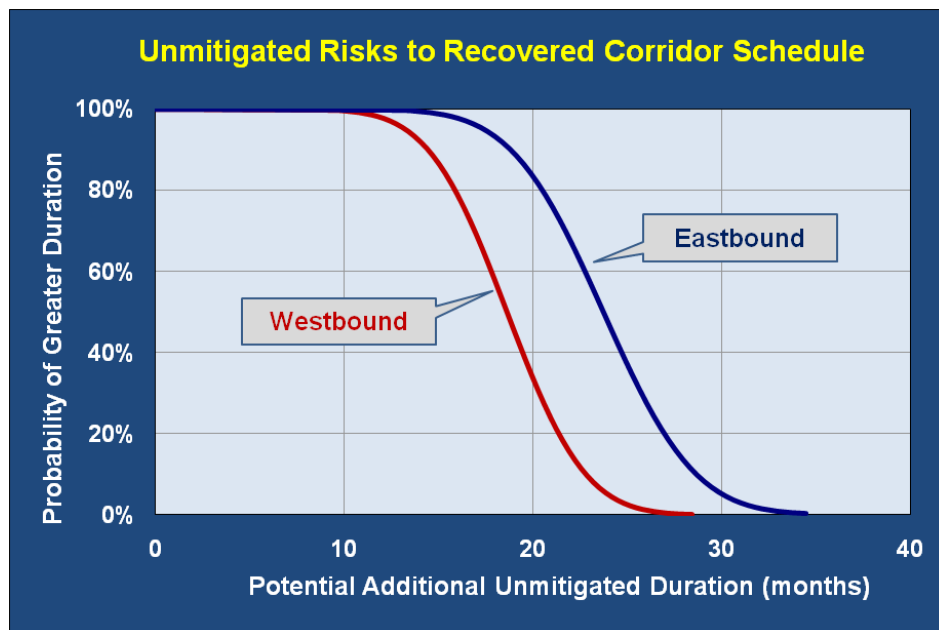


FIGURE 9 –UNMITIGATED RISKS TO WESTBOUND AND EASTBOUND OPENING MILESTONES

The westbound opening milestone is impacted by risks in Phase 1 of SAS, risks to the completion of Hinge K by the YBITS contractor, and risks to the completion of MEP systems for the westbound direction.

The eastbound opening milestone is impacted by risks to the westbound milestone, risks in the OTD 2 contract, risks in the YBITS 1 contract and risks to the completion of MEP systems for the eastbound direction.

Teams are investigating ways to mitigate the Hinge K completion risk. Lessons learned from the construction of the hinges of the Skyway contract are being incorporated into the SAS contract. The project management team is investigating ways to shorten the OTD Eastbound schedule and

mitigating risks associated with the demolition of the existing structures by scheduling the work during a potential weekend bridge closure. The MEP team, formed over a year and a half ago, continues to mitigate MEP system risks and remove the system's construction from the critical path through bridge opening. An MEP team is resolving issues with the traveler system to keep it off the critical path and mitigate risk.

COST OF SCHEDULE RECOVERY AND MITIGATING SCHEDULE RISKS

It is likely that the project teams will be able to mitigate a good portion of the potential schedule delays by implementing the mitigation measures outlined above. Implementing these measures will have direct cost impacts. The Risk Management Team has included items in the SAS contract and program-level risk registers to cover the potential costs of risk mitigation and recovering the SAS schedule.

4 SAS – SELF ANCHORED SUSPENSION CONTRACT

4.1 STATUS

The SAS contract is estimated to be 49 percent complete. The probable cost of SAS risks decreased by 12 percent this quarter. This reflects a decrease or retirement of several risks, offset by increased potential delay due to the shift in expected completion of East End fabrication from March 2011 to July 2011.

The SAS contractor's February 2010 schedule update indicates that the project completion milestone for seismic safety (eastbound open) may be up to 11 months later than the revised contract date. The revised contract dates include 197 days that were granted to resolve previous fabrication issues.

An important aspect of the SAS schedule – and of all schedules for large projects – is that there may be multiple critical paths to milestones.

Focusing on the path that is the most critical, while important, may divert attention from other near-critical paths. The most critical path to load transfer contains the OBG East End shop drawings, fabrication and erection of Lifts 13 and 14. A secondary critical path runs through the erection of Tower Lifts 3, 4 and 5, which are dependent on the fabrication and delivery of these lifts – the tertiary critical path.



4.2 RISK MANAGEMENT ACTIVITIES

SAS SCHEDULE RECOVERY

SAS schedule recovery opportunities are detailed in Section 3.2 above.

EAST END SHOP DRAWINGS

As discussed in previous Quarterly Risk Management Reports, efforts to generate shop drawings for the East End have been time-consuming. Three-dimensional models of the East End identified many conflicts that were resolved or could be resolved prior to developing shop drawings. However, this was only a preliminary step in the development of shop drawings for these elements.

Shop drawings for the East End are progressing well but remain a critical operation for the project. Shop drawing production was incentivized. The incentives and the placement of key personnel by the Department onto this item of work have facilitated getting this challenging issue under control. The Department marked the majority of shop drawings as “Approved” or “Approved as Noted” by the March 1, 2010 target date.

Department representatives meet regularly with the Contractor to identify opportunities to improve the review and approval process and to get the shop drawings ready for fabrication by ZPMC, the contractor's fabricator. Teams were formed to streamline the time and effort required by ZPMC to "translate" the drawings for fabrication. This effort is expected to take 2 months for each lift. Key personnel from the Department, its design consultant and the contractor's shop drawing developer have been relocated to China to assist in streamlining this process.

FABRICATION OF OBG AND TOWER

The TBPOC approved incentive and disincentive provisions associated with the first and third permanent steel shipments. These provisions resulted in the first shipment of permanent works departing the Chinese fabrication facility in late December 2009, and arrived in mid-January 2010. The second OBG Shipment departed March 29, 2010 and is expected to arrive 3 to 4 weeks later.

At this time, it appears that the incentive offered to the Contractor/Fabricator for the first tower shipment was insufficient to motivate them to accelerate operations so as to earn the incentive.

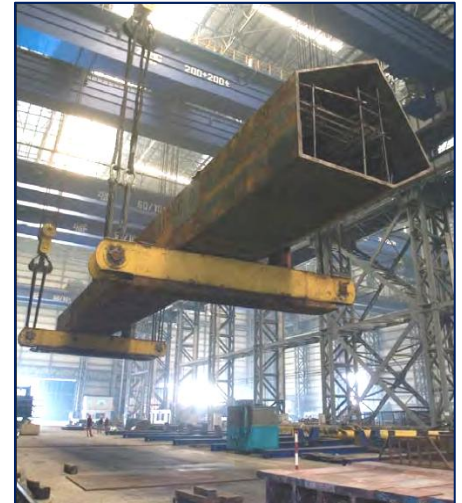
Team China continues to develop strategies to reduce risk and to accelerate fabrication while maintaining the specified quality. The contractor and Team China remain diligent in their Quality Control and Quality Assurance efforts to assure only elements that meet contractual quality standards will be shipped from China.

SAS CABLE INSTALLATION

While the SAS appears to have two cables, there is actually only one continuous main cable that is anchored within the decks at the eastern end, where it ties into the Skyway orthotropic box girder sections. This cable is carried over the tower and wrapped around W2 bent cap at the western end. The Cable Focus Team is developing strategies and solutions to mitigate potential risks associated with the cable.

Initial trial testing of the main cable strands, an important risk mitigation measure, was performed in September 2009. The first half of the cable shipment has arrived and the second is expected this summer.

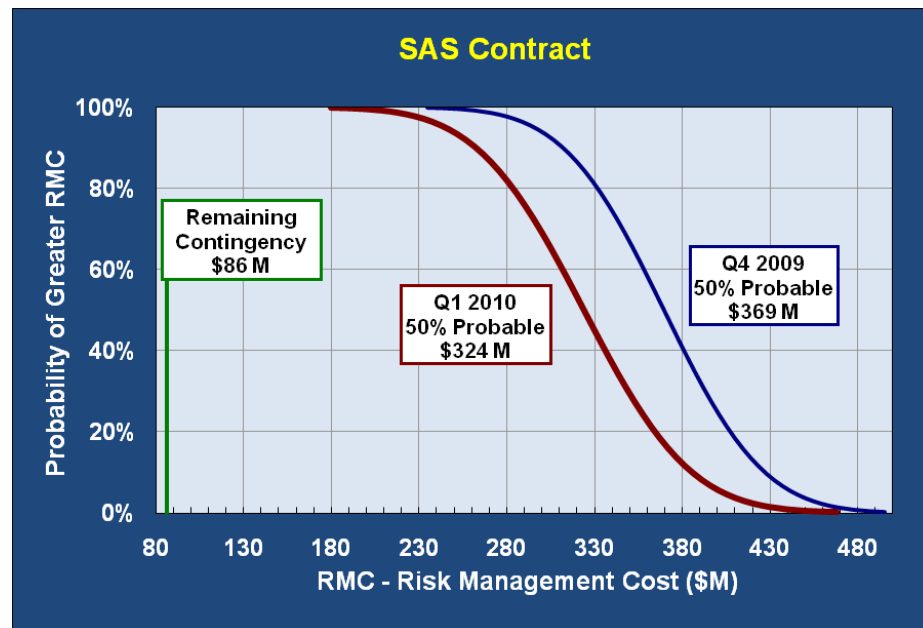
The Cable Focus Team meets weekly to address issues and refine cable erection plans. It has retained international experts in cable installation and has made recommendations to the Department.



4.3 RISK MANAGEMENT COST

The chart below shows the probability distribution of Risk Management Cost (RMC). This information is provided to the Project Manager and Program Manager for their consideration in budget analysis and quarterly forecasting.

The current quarter RMC probability distribution is the aggregate of risks, Notices of Potential Claims (NOPCs) and future CCOs as of March 31, 2010. The remaining contingency on this contract is \$86 million.



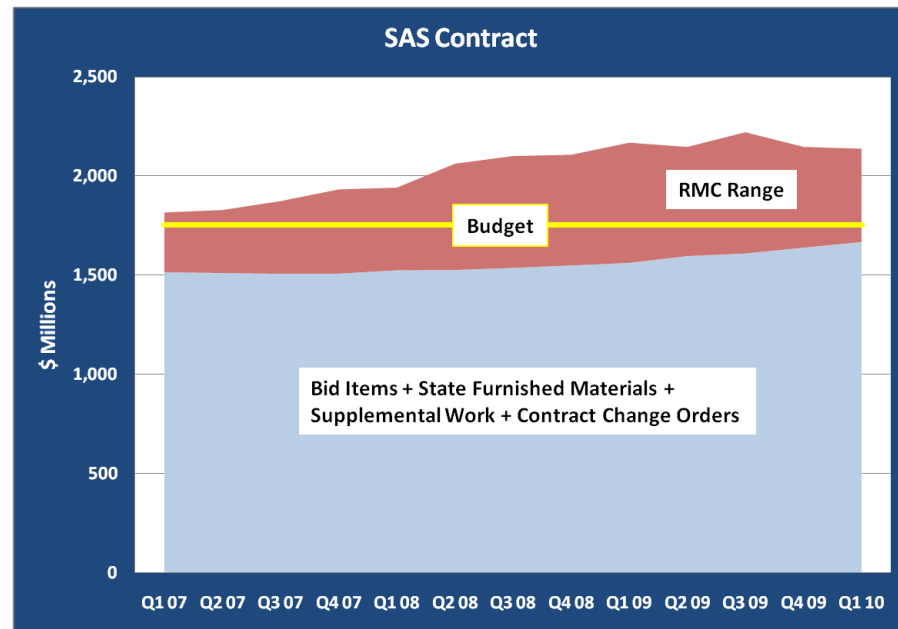
The following table shows three RMC values from the current curve, each with its associated probability of being exceeded.

Probability of Greater Risk Management Cost			
Probability	90%	50%	10%
Risk Management Cost	\$263 M	\$324 M	\$386 M

RISK MANAGEMENT TREND

The chart shows the total of Bid Items, State Furnished Materials, remaining Supplemental Work and CCOs from the 1st quarter 2007 to date. The range of Capital Outlay risks is on top (in red)¹. The width of the RMC range embraces over 99 percent of the possible outcomes. The budget line is the approved TBPOC budget for the quarter.

¹ Capital Outlay Support risks are reported in Section 13.



4.4 LOOK AHEAD

SHIPMENT DATES

Forecasting shipment dates continues to be challenging. Although the first two OBG shipments have departed the fabrication facility, subsequent shipment dates still have considerable uncertainty. The uncertainty should reduce with each shipment as the teams apply lessons learned to managing the fabrication processes.

The SAS contractor is contemplating rearranging OBG and Tower lifts among shipments, and possibly adding two shipments, to deliver the bridge components to the jobsite as soon as possible.

ENGAGE SCHEDULE PARTNERSHIP

The Joint Opportunity Schedule development began in the 1st quarter 2009 as a joint effort between the Department and the contractor. It has been tabled as efforts were redirected to resolving the East End shop drawing issues. Now that many of the issues have been resolved, project management is expected to engage the Contractor to jointly develop a schedule for the remaining portion of the project.

The Risk Management Team views a joint schedule as an essential planning tool that should be used to identify and call attention to risks and their potential impacts on bridge opening. While incentives/disincentives on completion milestones may be considered, the joint schedule ought to include specific actions to facilitate schedule recovery – actions that are tangible, measureable and achievable.

The Department and the Contractor have begun discussing ways to move forward on the construction of the bridge to meet the TBPOC's goal of opening the bridge in 2013. Discussions have concentrated on three key areas: streamlining East End fabrication, accelerating cable erection through load transfer, and redefining requirements for placing traffic on the bridge.

RESOLUTION OF FABRICATION ISSUES

A Contract Change Order was issued to resolve the fabrication issues for the OBG Lifts 1 to 11 and the Tower. While this change order resolved many issues to date, there is still a year left in fabrication and issues are expected to arise and require resolution; of particular concern, are change orders written for deferred time and cost.

Some issues have been resolved using incentives and down payments for extra work on East End shop drawing development. Change orders are contemplated for the resolution of East End fabrication issues and for accelerating construction activities in the Bay Area.

Meetings held in mid-March identified specific means that could be implemented in the East End fabrication process to mitigate the fabrication schedule. These meetings succeeded in developing several concepts that are being implemented with others expected to follow.

5 YBI DETOUR CONTRACT

5.1 STATUS

This contract is in construction with approximately 92 percent of the revised scope of the contract now completed. The probable cost of risks decreased about 30 percent this quarter. This was primarily due to the successful progression of the demolition work and a transfer of some risk associated with the S-Curve safety enhancements into CCOs. Two risks were retired from the risk register this quarter.

5.2 RISK MANAGEMENT ACTIVITIES

S-CURVE SAFETY ENHANCEMENTS

The project team had previously assessed cost risks to cover various safety enhancements to the Detour. These measures are now incorporated into the work, the costs are transferring to the CCO Log, and these risks are retired.

The Risk Management team assessed the risks associated with various night closure configurations that might be implemented on the S-Curve until project completion. Potential lane closure costs after project completion are carried in the YBITS 1 contract risk register.

DEMOLITION

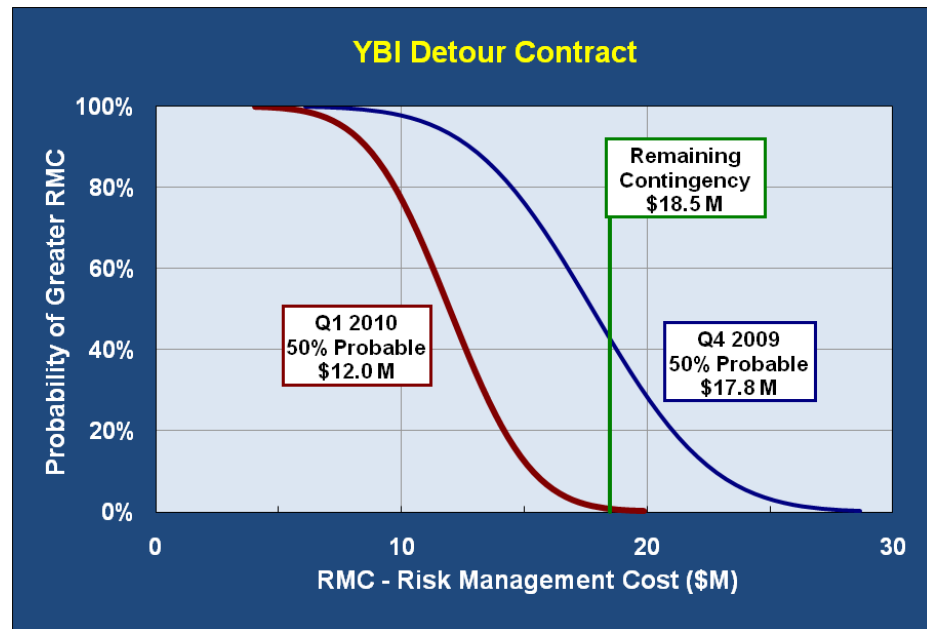
With approximately 75% of the demolition work now complete, the risk cost is reduced by 50% and will likely be retired next quarter.

5.3 RISK MANAGEMENT COST

The chart below shows the probability distribution of RMC. This information is provided to the Project Manager and Program Manager for their consideration in budget analysis and quarterly forecasting.

The current quarter RMC probability distribution is the aggregate of risks, NOPCs and future CCOs as of March 31, 2010. The remaining contingency on this contract is \$18.5 million.



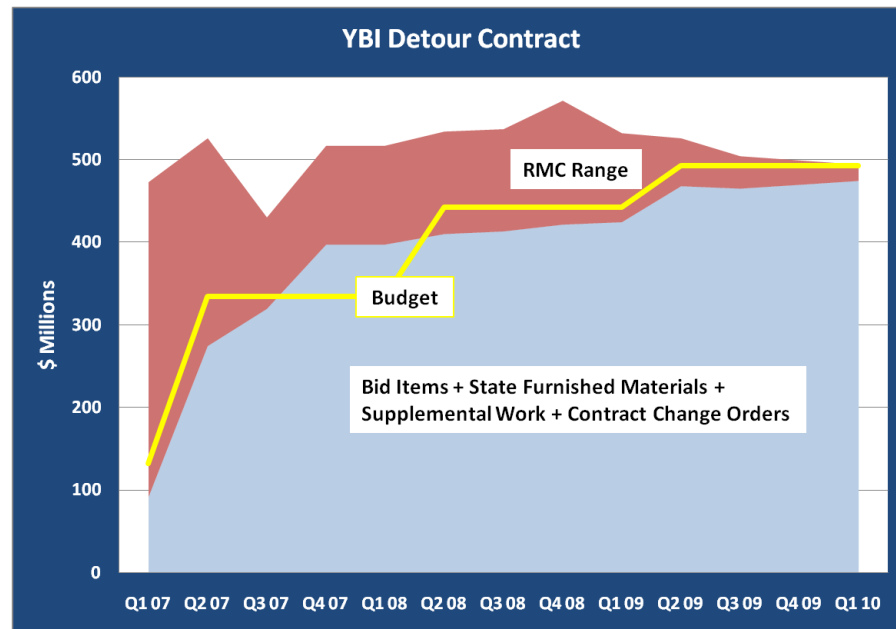


The following table shows three RMC values from the current curve, each with its associated probability of being exceeded.

Probability of Greater Risk Management Cost			
Probability	90%	50%	10%
Risk Management Cost	\$9 M	\$12 M	\$15 M

RMC TREND

The chart shows the total of Bid Items, State Furnished Materials, remaining Supplemental Work and CCOs from the 1st quarter 2007 to date. The range of CO risks is on top (in red). The width of the range embraces over 99 percent of the possible outcomes. The budget line is the approved TBPOC budget for the quarter.



5.4 LOOK AHEAD

DEMOLITION AND CONSTRUCTION OF BENT 5

The demolition of the old bridge from the East Tie-In to the West Tie-In and the construction of Bent 5 will be completed over the next several months. Risks will be reduced and retired as the work progresses.

6 OAKLAND TOUCHDOWN #1 (WESTBOUND) CONTRACT

6.1 STATUS

This contract is in construction, nearing 93% percent completion. Three risks were retired due to the progress of the work, resulting in a 3 percent decrease in the probable cost of risks. The remaining risk allowances will cover job close-out costs and any upcoming CCOs or claims from the contractor or his subcontractors.

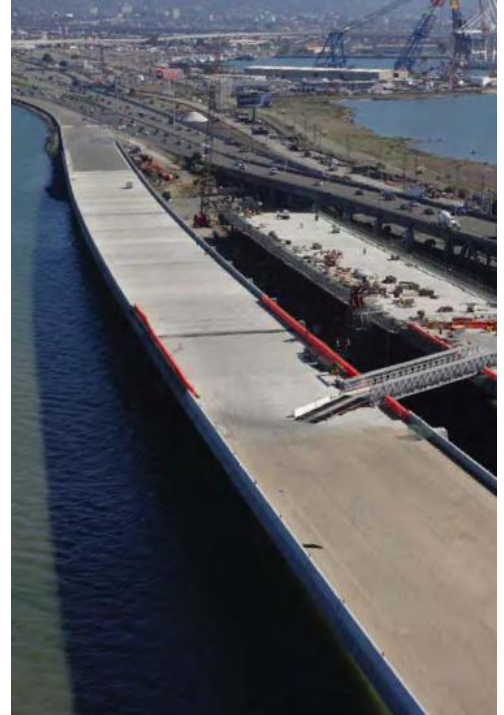
6.2 RISK MANAGEMENT ACTIVITIES

RETIRED RISKS

Three residual risks were retired due to the progress of the work:

- Conflicts with unknown utilities,
- Contractor's work impacts known utilities,
- Conflicts or differing opinions over welding.

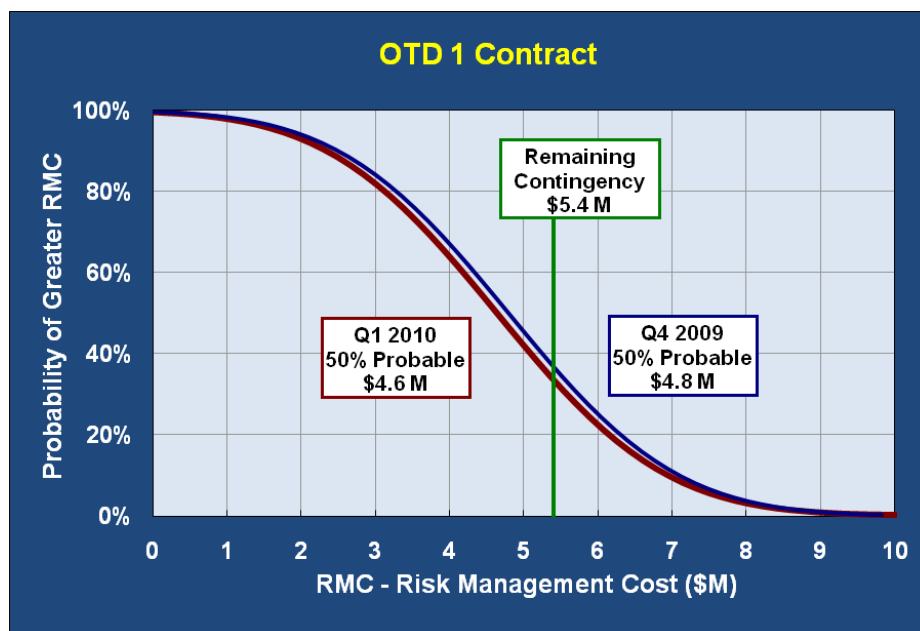
Minor changes that may result from these risks will be covered by the miscellaneous CCOs risk allowance.



6.3 RISK MANAGEMENT COST

The chart below shows the probability distribution of RMC. This information is provided to the Project Manager and Program Manager for their consideration in budget analysis and quarterly forecasting.

The current quarter RMC probability distribution is the aggregate of risks, NOPCs and future CCOs as of March 31, 2010. The remaining contingency on this contract is \$5.4 million.

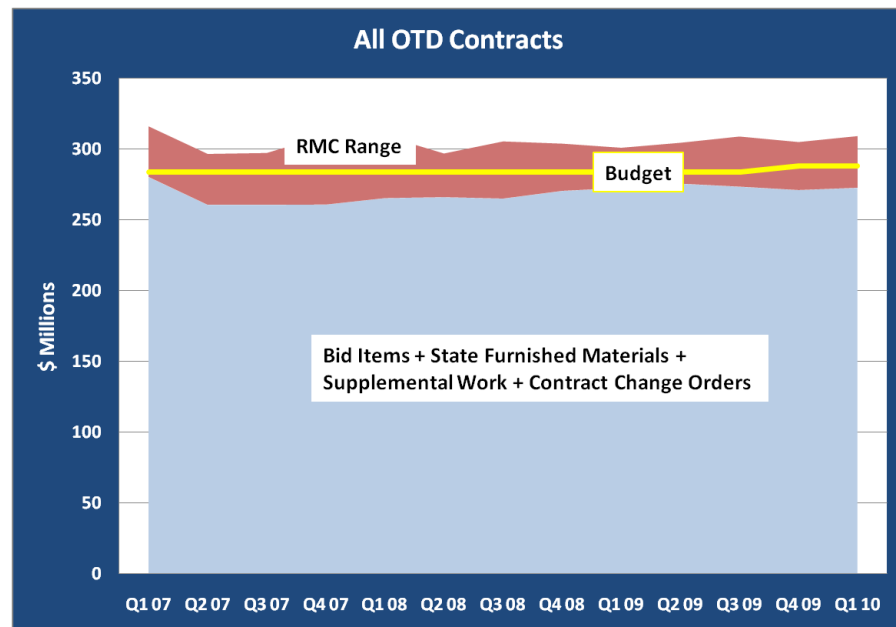


The following table shows three RMC values from the current curve, each with its associated probability of being exceeded.

Probability of Greater Risk Management Cost			
Probability	90%	50%	10%
Risk Management Cost	\$2.3 M	\$4.6 M	\$7.0 M

RMC TREND

The chart shows the total of Bid Items, State Furnished Materials, remaining Supplemental Work and CCOs from the 1st quarter 2007 to date. The range of Capital Outlay risks is on top (in red). The width of the range embraces over 99 percent of the possible outcomes. The budget line is the approved TBPOC budget for the quarter.



The chart is for all OTD contracts combined because the TBPOC has not established a budget for each contract.

6.4 LOOK AHEAD

PROJECT COMPLETION

The project is scheduled to complete by the contractual date, or possibly earlier. Remaining activities include: completing the bike path, electrical service platforms, Mole Substation building, Maintenance Road Detour, Eastbound Detour, and punch list.

7 OAKLAND TOUCHDOWN #2 (EASTBOUND) CONTRACT

7.1 STATUS

This contract is in design, at the 95 percent phase. The probable cost of risks increased by 10 percent this quarter due to increases in the risk that the estimate is not consistent with the current proposed schedule and in the risk of impacts to public traffic due to a potential full bridge closure. The risks of design conflicts and incomplete contract documents at RTL were reduced.



7.2 RISK MANAGEMENT ACTIVITIES

CURRENT ESTIMATE NOT CONSISTENT WITH PROPOSED ACCELERATION OF EASTBOUND OPENING

The proposed OTD 2 schedule compresses the time between westbound and eastbound openings from one year to 7 months. The current estimate does not account for the necessary acceleration, which may call for double shifts and 7-day work weeks. If the schedule is accepted, the estimate will increase. The risk probability increased this quarter to reflect the current plan to compress the eastbound opening schedule.

POTENTIAL IMPACTS ON PUBLIC TRAFFIC

A full bridge closure before westbound opening is being considered. The closure will ensure that the grinding, paving work, and pavement delineation on the westbound can be completed without potentially impacting safety. A closure will also allow safe demolition of the existing westbound structure where it crosses over eastbound traffic. The probability of the risk was increased to reflect that the decision is leaning toward a full bridge closure.

PS&E DATE CHANGES

The OTD 2 PS&E dates were changed without affecting the advertisement dates to allow the Department to finalize work items such as the seismic joints, the existing bridge demolition, and the bike path temporary parking lot. The date change reduced the risk that contract documents will not be complete by Ready to List (RTL) date.

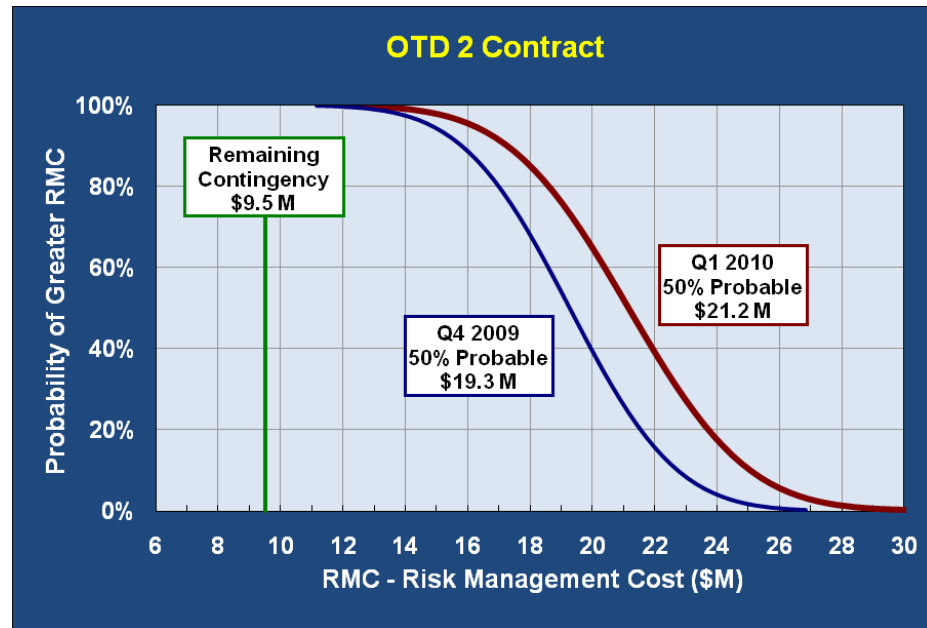
DEVELOPMENT OF INTEGRATED SHOP DRAWINGS (ISDs) DURING DESIGN

A decision was made to develop ISDs for the project during the design phase to solve electrical-mechanical-structural conflicts and to revise the contract plans accordingly. Lessons learned from the OTD 1 and YBITS 1 contracts were incorporated. Work on ISDs began during the quarter and is expected to be completed shortly. The risk allowance was reduced to reflect the progress of this mitigation action.

7.3 RISK MANAGEMENT COST

The chart below shows the probability distribution of RMC. This information is provided to the Project Manager and Program Manager for their consideration in budget analysis and quarterly forecasting.

The current quarter RMC probability distribution is the aggregate of risks, NOPCs and future CCOs as of March 31, 2010. The remaining contingency on this contract is \$9.5 million.



The following table shows three RMC values from the current curve, each with its associated probability of being exceeded.

Probability of Greater Risk Management Cost			
Probability	90%	50%	10%
Risk Management Cost	\$17 M	\$21.2 M	\$25 M

RMC TREND

The TBPOC has not established a budget for each OTD contract. The chart for all OTD contracts combined is on page 25.

7.4 LOOK AHEAD

BRIDGE OPENING PLANNING

The OTD 2 contract will put traffic on the westbound lanes and later on the eastbound. Detailed plans for the traffic switches are to be prepared, including an evaluation of whether a single full bridge closure will be required.

8 YBI TRANSITION STRUCTURES #1 CONTRACT

8.1 STATUS

The YBITS 1 contract was awarded to the lowest bidder, MCM Construction, Inc. The first contract working day was March 10, 2010, with field work commencing in September 2010. The probable cost of risks of this contract decreased by 7 percent this quarter, due a revised quantification of delay costs. One risk was added, one risk increased, and one replaced by a CCO allowance.

8.2 RISK MANAGEMENT ACTIVITIES

REVISED QUANTIFICATION OF DELAY COSTS

A schedule risk assessment is conducted quarterly, resulting in the expected number of delay days on the project, for which the contractor will be compensated at a daily rate. A detailed estimate of the rate was performed this quarter, based on the bid results, and a lower daily rate was computed. The use of the new rate resulted in a net reduction in the delay risk cost.

PERCEIVED AMBIGUITY BETWEEN CONTRACT SPECIFICATIONS AND PLANS MAY AFFECT STAGING

The YBITS 1 contractor submitted a preliminary schedule indicating a plan to complete westbound Frame 2 prior to availability of the required area at W2. The contractor assumed that this would be possible due to perceived ambiguity between the plans and specifications. The contractor indicated a plan to reuse WB frame 2 falsework for the eastbound, which may not be possible if Frame 2 cannot be completed as the contractor has assumed.

The Department is in discussions with the YBITS 1 and SAS contractors to determine if early access to the area can be allowed. However, the schedules for both contracts are still too fluid to make a determination. Additionally, the design team is investigating possible options to facilitate partial stressing of the frame and falsework release. If the area cannot be made available to the YBITS 1 contractor and redesign is not possible, a CCO may be required to purchase a second set of falsework for eastbound Frame 2. A risk allowance for the potential costs was added.

POTENTIAL CHANGES TO THE EXPANSION JOINTS DESIGN

The in-house design for the SAS joints may be revised or replaced by commercial, proprietary joints. Four of the 6 YBITS 1 joints may need to be changed to the type selected. The joints are complex, long lead-time items, and their design requires consensus among many parties. Changes would require a CCO, and the risk has increased this quarter to reflect cost estimates for the commercial joints.

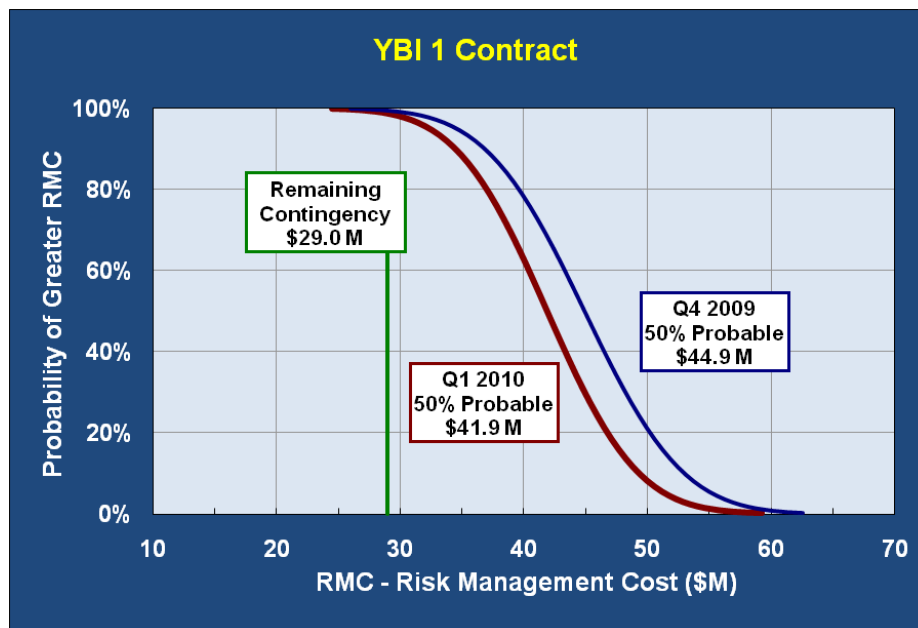
FUTURE CCOs

The allowance for addenda items not incorporated before award was replaced with a CCO allowance for upcoming CCOs.

8.3 RISK MANAGEMENT COST

The chart below shows the probability distribution of RMC. This information is provided to the Project Manager and Program Manager for their consideration in budget analysis and quarterly forecasting.

The current quarter RMC probability distribution is the aggregate of risks, NOPCs and future CCOs as of March 31, 2010. The remaining contingency on this contract is \$29.0 million.

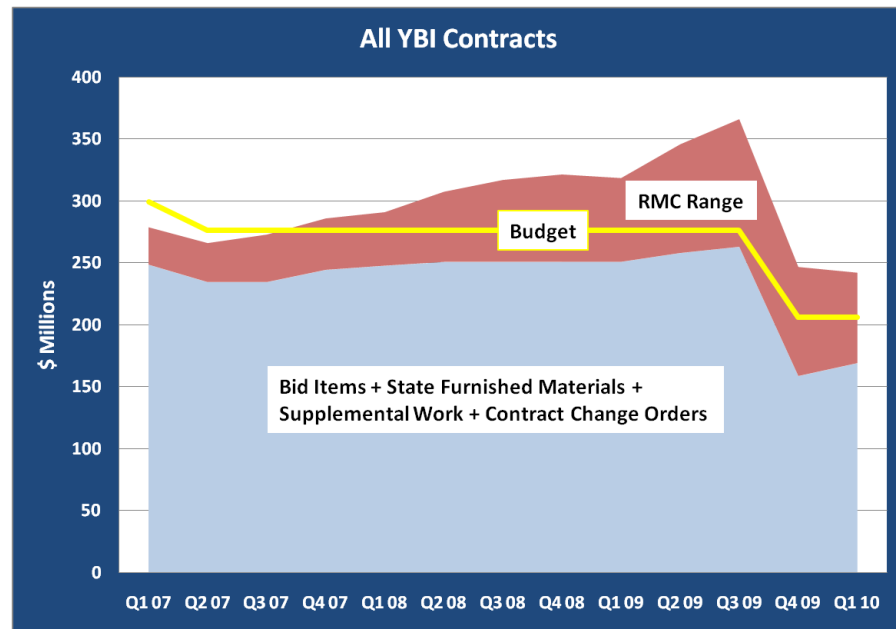


The following table shows three RMC values from the current curve, each with its associated probability of being exceeded.

Probability of Greater Risk Management Cost			
Probability	90%	50%	10%
Risk Management Cost	\$35 M	\$41.9 M	\$49 M

RMC TREND

The chart shows the total of Bid Items, State Furnished Materials, remaining Supplemental Work and CCOs from the 1st quarter 2007 to date. The range of Capital Outlay risks is on top (in red). The width of the range embraces over 99 percent of the possible outcomes. The budget line is the approved TBPOC budget for the quarter.



The chart is for all YBI contracts combined because the TBPOC has not established a budget for each contract.

8.4 LOOK AHEAD

HINGE "K" AVAILABILITY

Delays to the YBITS 1 contract may occur if the SAS contractor is not ready to vacate the Hinge "K" area by the required time. Based on the status of the YBID and SAS contracts, the YBITS 1 contract duration was extended to coordinate with the current SAS contract dates. However, the YBITS 1 contract may be impacted if additional delays are encountered on the SAS contract. The risk management team recommends a meeting with the YBITS 1 and the SAS contractors to discuss possible solutions.

ISSUE EARLY CONTRACT CHANGE ORDERS

Early issue of the planned CCOs will mitigate potential delays to submittals and construction.

9 YBI TRANSITION STRUCTURES #2 CONTRACT

9.1 STATUS

This contract is in design with completion of Plans, Specifications and Estimate (PS&E) expected in March 2011. The probable cost of risk decreased by 5 percent this quarter due to the selection of a design solution to resolve a structural conflict.



9.2 RISK MANAGEMENT ACTIVITIES

DESIGN RESOLUTION – WTI PHASE 3 AND THE EASTBOUND OFF-RAMP

Providing a safe routing of the final eastbound off-ramp requires a modification to the WTI Phase 3 south side structural design. Two solutions were under consideration: (1) design a structure fix, or, (2) get a design exception for a non-standard off-ramp alignment. The structure fix solution was selected and the proposed design has been reviewed and approved by the Seismic Safety Peer Review Panel with minor comments, resulting in a decrease in the risk cost estimate this quarter.

The structure fix involves a complex design solution that may necessitate further design adjustments, thus a mock-up by YBITS 1 contract is planned. Additional lane closures during construction may impact traffic more than previously planned. Additional costs (and possibly time) will be needed to retrofit the WTI structure and construct the off-ramp. Staging coordination with the City of San Francisco Ramps project is under way.

SLIGHT INCREASE IN THE RISK THAT DESIGN MAY NOT BE COMPLETE AT RTL DATE

The current Ready to List (RTL) date is in early 2011. The probability of the risk that the design may not be complete by the RTL date has increased from “very low” to “low” this quarter, due to the work required on the WTI Phase 3 structural fix. The RTL date may be changed in the future to match the SAS project status.

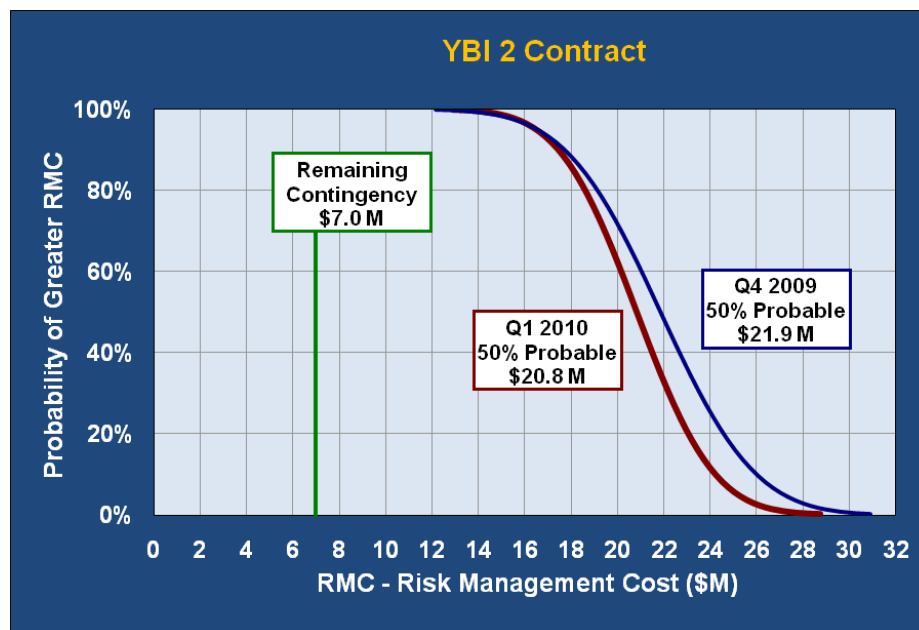
COORDINATION WITH CITY OF SAN FRANCISCO RAMPS PROJECT

The YBITS 2 contract may be combined with the City of San Francisco Ramps project (SFR). Coordination of staging plans and schedule is underway. A combined risk management effort by SFR and YBITS 2 staff began this quarter to bolster risk mitigation planning. The SFR risk management results will remain separate from this report, as the project is funded by the City of San Francisco.

9.3 RISK MANAGEMENT COST

The chart below shows the probability distribution of RMC. This information is provided to the Project Manager and Program Manager for their consideration in budget analysis and quarterly forecasting.

The current quarter RMC probability distribution is the aggregate of risks, NOPCs and future CCOs as of March 31, 2010. The remaining contingency on this contract is \$7.0 million.



The following table shows three RMC values from the current curve, each with its associated probability of being exceeded.

Probability of Greater Risk Management Cost			
Probability	90%	50%	10%
Risk Management Cost	\$17 M	\$20.8 M	\$24 M

RMC TREND

The TBPOC has not established a budget for each YBI contract. The chart for all YBI contracts combined is on page 29.

9.4 LOOK AHEAD

DEVELOPMENT OF INTEGRATED SHOP DRAWINGS (ISDs) DURING DESIGN

A decision was made to develop ISDs for the project during the design phase to solve electrical-mechanical-structural conflicts and then revise the contract plans accordingly. Work on ISDs is planned to begin in the next quarter.

PROPOSED SCHEDULE EVALUATION

The YBITS 2 contract first order of work is to demolish the Yerba Buena Island Detour starting after eastbound opening. Thus contract award is planned to coincide with the westbound opening, about 6 months before eastbound opening. The current advertise and award schedule should be adjusted in the future to match the progress of the SAS and YBITS 1 contracts.

10 PROGRAM-LEVEL RISKS

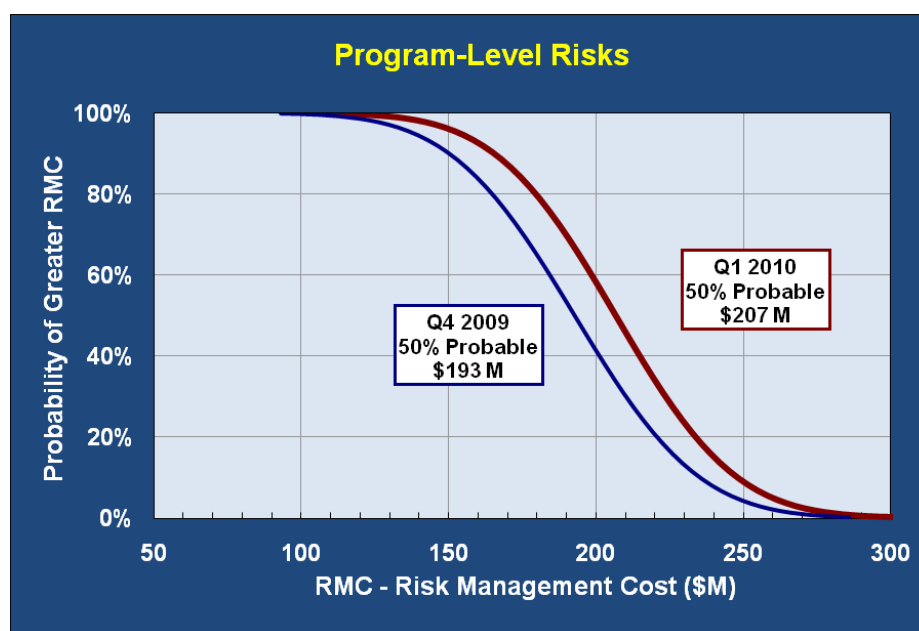
The Program Risk Register contains risks that are not specific to a particular contract and risks that may affect several contracts. The 50% probable RMC of program-level risks increased by about \$14 million quarter because the 2-3 month slippage caused by the East End fabrication schedule resulted in an increase to the escalation of unawarded contracts.

The delay cost risks in the SAS and YBITS 1 risk registers are calculated on the assumption that the SAS contract will be recovered by about 9 months. Accordingly, the program-level risk register captures the potential extra costs of delay if the 9-month recovery is not realized. This risk impacts the SAS and YBITS 1 contracts, as well as the Capital Outlay Support, and adds escalation to the unawarded contracts.

The delay cost risks in the contract risk registers may be considered a reserve to offset the direct costs of mitigating schedule delay risks. In the program-level risk register, the risk of extra delay costs if the SAS schedule is not recovered may be viewed as a reserve against the direct costs of schedule recovery.

10.1 RISK MANAGEMENT COST

The chart below shows the probability distribution of Program-Level RMC as of March 31, 2010.



The following table shows three RMC values from the current curve, each with its associated probability of being exceeded.

Probability of Greater Risk Management Cost			
Probability	90%	50%	10%
Risk Management Cost	\$165 M	\$207 M	\$248 M



The Program Risk Register does not include: Light Pipe, BASE system, and residual risk to the Department for including the YBI ramp for the City of San Francisco.

11 ANTIOCH BRIDGE RETROFIT CONTRACT

11.1 STATUS

This project was added to the Toll Bridge Program on 1st January 2010 under AB1175. Bids were opened on this contract on March 3, 2010 and contract award is expected shortly. The Risk Management Team has quantified risks of the Antioch project since it was at 35% design completion over 2 years ago. Sixteen risks totaling \$17 million in probable cost were retired this quarter when the project transitioned from Design to Construction.



11.2 RISK MANAGEMENT ACTIVITIES

BATA PROTOTYPE BEARING DEVELOPMENT PROJECT

The seismic retrofit strategy requires the use of friction pendulum isolation (FPI) bearings. There was only one bearing manufacturer prequalified by Caltrans to supply FPI bearings. Due to the size and specific bearing properties, such as friction, there were risks that the bearing testing would require lead times that could vary and delay the project. Early risk management meetings identified this risk as one of the three primary risks that this project needed to address. It was decided that the bearing procurement would be carried out in two phases, prototype bearing development and production bearing procurement, to mitigate delay risk.



The design team completed plans and special provisions for the prototype bearings and testing during the first few months of 2009. Prototype design, manufacturing and testing was expected to take 9 to 12 months. It was the team's desire to have the bearing types approved and ready for production at or shortly after award of the construction contracts in April, 2010.

On April 8, 2009 an agreement was executed between BATA and Earthquake Protection Systems (EPS) to design, manufacture, and test FPI prototype bearings. Bearing testing was to be carried out at EPS facilities and quality assurance tests would be conducted at the University of California, San Diego.

The general contractor will no longer be responsible for the prototype bearings and risks associated with the prototype program have been reduced by eliminating the prototype program from the construction contract. In doing so, the project team significantly reduced potential delay

risk during construction and reduced overall construction time to seismically retrofit these structures.

ISOLATION OPPORTUNITY: KEEPING OUT OF THE WATER

The initial retrofit strategy for the project had envisioned significant marine work associated with the installation of large diameter piles around the deep water foundations. Early risk management meetings identified this risk as one of the three primary risks that this project faced and it was agreed that the team would invest significant resources in trying to limit the amount of marine work that would be necessary to retrofit the bridge.

This approach would not only decrease the initial capital cost of the work but would also significantly reduce future risks that are prevalent with marine foundation work. The project design team worked diligently with state of the art isolation bearing systems to develop a retrofit strategy that avoided the need for deep water retrofits of the bridge's foundations. The Seismic Peer Review Committee agreed with the revised retrofit strategy which immediately resulted in a 25% reduction in estimated project costs.

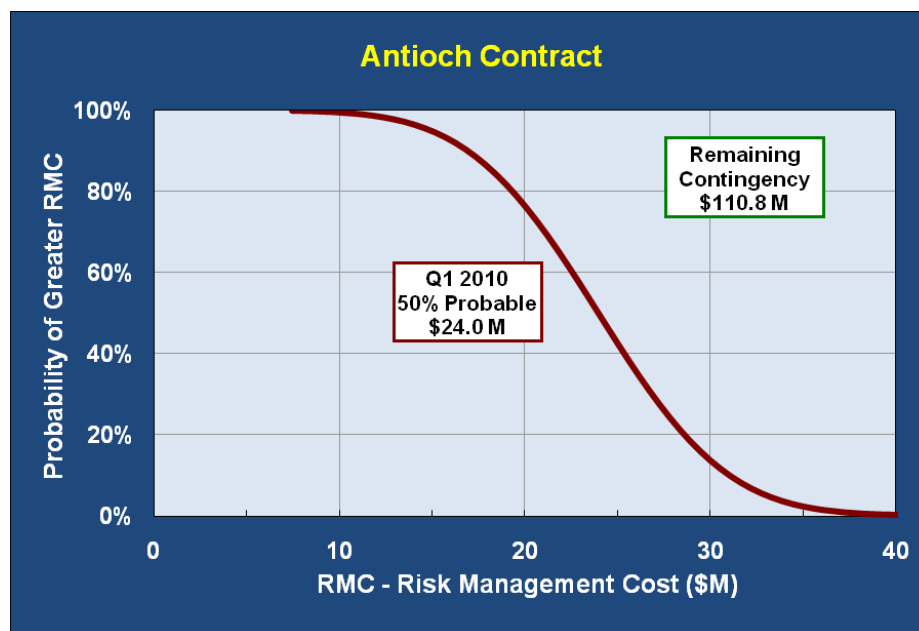
VANGUARD FOCUS TEAMS ADDRESSED ENVIRONMENTAL RISKS

Early risk management meetings identified environmental delay risk as one of the three primary risks that this project faces. The project team immediately put several teams in place to make sure that all environmental permit issues were addressed in a timely manner, so as not to delay the bridge's retrofit. Permitting agencies were engaged early in the design process and the priority given to the project by Caltrans management ensured that the various agencies remained engaged throughout the process. The project team managed to PS&E the project on schedule and thus significant risk costs were retired with the on-time delivery.

11.3 RISK MANAGEMENT COST

The chart below shows the probability distribution of RMC. This information is provided to the Project Manager and Program Manager for their consideration in budget analysis and quarterly forecasting.

The current quarter RMC probability distribution is the aggregate of risks, NOPCs and future CCOs as of March 31, 2010. The remaining contingency on this contract is \$110.8 million.



The following table shows three RMC values from the current curve, each with its associated probability of being exceeded.

Probability of Greater Risk Management Cost			
Probability	90%	50%	10%
Risk Management Cost	\$17 M	\$24.0 M	\$31 M

11.4 LOOK AHEAD

CRITICAL WORK IN ENVIRONMENTAL WORK WINDOW

The Department will work closely with the Contractor and the permitting agencies to try to get all site access in-place prior to the close of the environmental work window. This will help to achieve seismic safety at the earliest possible date.

SUCCESSFULLY COMPLETE PROCUREMENT OF ISOLATION BEARINGS

The Antioch Retrofit has 82 bearings to be installed. Production bearings delivery to the general contractor will need to be scheduled and delivered as planned to avoid delay claims. The PS&E contract documents sole-sourced the production bearings through the general contractor. QC testing on the production bearings will be conducted at EPS and 10% of the bearings will be QA tested at UCSD. The project will work closely with EPS and the Contractor to ensure that the sole-source agreement delivers seismic safety at the earliest possible date.

12 DUMBARTON BRIDGE CONTRACT

12.1 STATUS

This project was added to the Toll Bridge Program on 1st January 2010 under AB1175. Bids are scheduled to be opened on May 27, 2010 and contract award is expected shortly thereafter. The Risk Management Team has quantified risks of the Dumbarton Bridge Retrofit project since it was at 35% design completion over 2 years ago. Thirteen risks totaling \$15 million in probable cost were retired this quarter with the pending transition of the project from Design to Construction.



12.2 RISK MANAGEMENT ACTIVITIES

ISOLATION OPPORTUNITY: KEEPING OUT OF THE WATER

The initial retrofit strategy for the project had envisioned significant marine work associated with the installation of large diameter piles around the deep water foundations. Early risk management meetings identified this risk as one of the three primary risks that this project faced and it was agreed that the team would invest significant resources in trying to limit the amount of marine work that would be necessary to retrofit the bridge.

This approach would not only decrease the initial capital cost of the work but would also significantly reduce future risks that are prevalent with marine foundation work. The project design team worked diligently with state of the art isolation bearing systems to develop a retrofit strategy that avoided the need for deep water retrofits of the bridge's foundations. The Seismic Peer Review Committee agreed with the revised retrofit strategy which immediately resulted in a 35% reduction in estimated project costs.

BATA PROTOTYPE BEARING DEVELOPMENT PROJECT

The seismic retrofit strategy requires the use of friction pendulum isolation (FPI) bearings. There was only one bearing manufacturer prequalified by Caltrans to supply FPI bearings. Due to the size and specific bearing properties, such as friction, there were risks that the bearing testing would require lead times that could vary and delay the project. Early risk management meetings identified this risk as one of the three primary risks that this project needed to address. It was decided that the bearing procurement would be carried out in two phases, prototype bearing development and production bearing procurement.

The design team completed plans and special provisions for the prototype bearings and testing during the first few months of 2009. Prototype design, manufacturing and testing was expected to take 9 to 12 months. It was the team's desire to have the bearing types approved and ready for

production at or shortly after award of the construction contracts in April, 2010. On April 8th, 2009 an agreement was executed between BATA and Earthquake Protection Systems (EPS) to design, manufacture, and test FPI prototype bearings. Bearing testing was to be carried out at EPS facilities and quality assurance tests would be conducted at the University of California, San Diego.

The general contractor will no longer be responsible for the prototype bearings and risks associated with the prototype program have been reduced by eliminating the prototype program from the construction contract. In doing so, the project team significantly reduced potential delay risk during construction and reduced overall construction time to seismically retrofit these structures.

FOCUS TEAMS ADDRESSED ENVIRONMENTAL RISKS

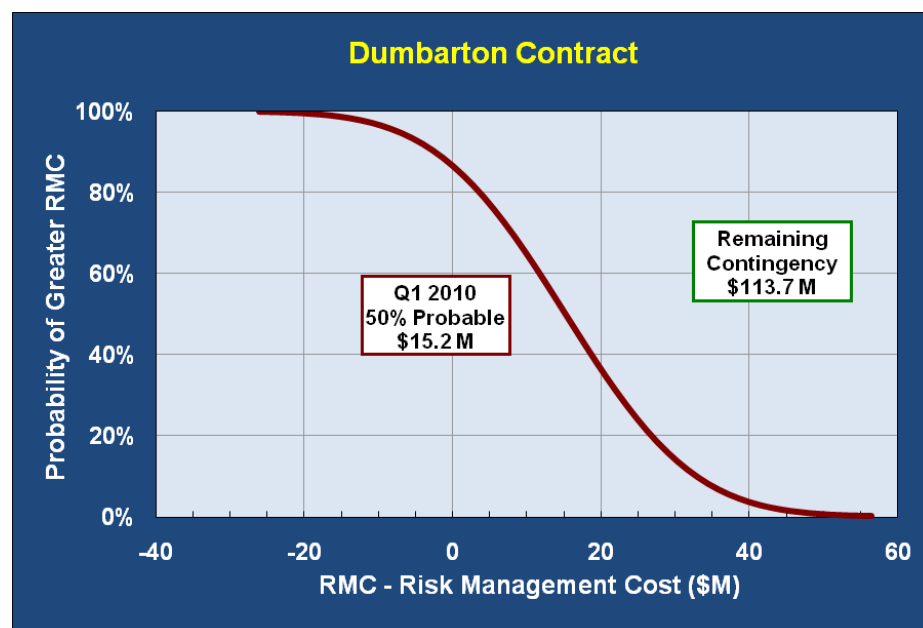
Early risk management meetings identified Environmental delay risk as one of the three primary risks that this project faced. The project team immediately put several teams in place to make sure that all environmental permit issues were addressed in a timely manner, so as not to delay the bridge's retrofit.

Permitting agencies were engaged early in the design process and the priority given to the project by Caltrans management insured that the different agencies remained engaged throughout the process. The project team managed to PS&E the project on schedule and thus significant risk costs were retired.

12.3 RISK MANAGEMENT COST

The chart below shows the probability distribution of RMC. This information is provided to the Project Manager and Program Manager for their consideration in budget analysis and quarterly forecasting.

The current quarter RMC probability distribution is the aggregate of risks, NOPCs and future CCOs as of March 31, 2010. The remaining contingency on this contract is \$113.7 million.



The following table shows three RMC values from the current curve, each with its associated probability of being exceeded.

Probability of Greater Risk Management Cost			
Probability	90%	50%	10%
Risk Management Cost	\$-2 M	\$15.2 M	\$33 M

12.4 LOOK AHEAD

FURTHER ISOLATION OPPORTUNITY

Based upon the revised bearing size, and preliminary test results on the UCSD test model, the structural team is reporting that some retrofit measures may not be necessary. A consultant of has been engaged to perform state-of-the-art seismic analysis to evaluate the retrofit measure that may be eliminated, including:

- Prestressing Cast-in-place Concrete (\$0.9M)
- Str. Concrete Bent Cap (\$40.5M)
- Str. Concrete Column, Drill & Bond Dowel, Conc. Coring (\$32M)

The project team is working diligently to enhance these opportunities to the greatest extent possible and reap the full benefit of the cost savings by deleting the work prior to contract bid opening. Once the work is deleted, the Engineers Estimate will be reduced substantially. The large opportunity in the risk register will be retired and there will be a commensurate increase in the probable cost of risk.



13 CAPITAL OUTLAY SUPPORT

The Capital Outlay Support cost includes support cost risks that affect all contracts and risks from contracts that have an impact on COS. The COS risks are measured from the current approved COS budget. Any COS cost risk in excess of the current approved COS budget would be a draw on the Program Contingency.

Figure 10 shows the current COS cost differential probability distribution, with the previous quarter result in blue.

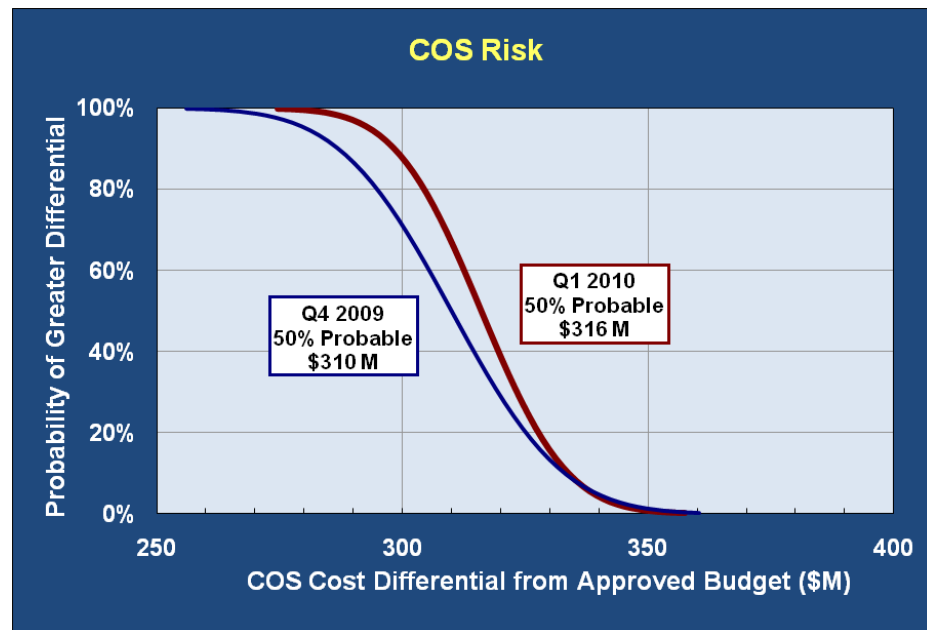


FIGURE 10 – CAPITAL OUTLAY SUPPORT RISK

The 50% probable COS cost risk increased by about \$6 million mainly due to the slippage in the East End fabrication schedule. The TBPOC is expected to approve a \$204 million increase in the COS budget next quarter. The increase will allow about an equal amount of COS risk to be retired because they have occurred and no longer need to be carried in the COS register.

13.1 COS RISK TREND

Figure 11 shows the COS risk from the 1st quarter 2007 to date. The range of COS risks is on top. The width of the range is such that it embraces over 99 percent of the possible outcomes.

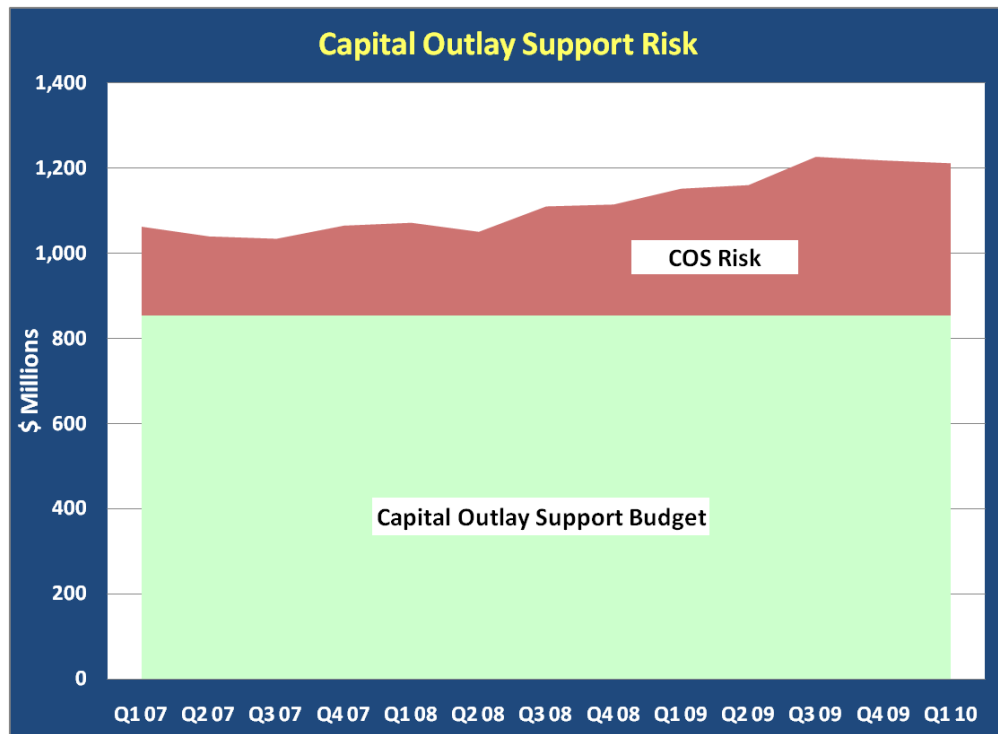


FIGURE 11 – COS RISK TREND

Appendix "A"

RISK MANAGEMENT EXPLANATIONS

A.1 WHAT RISK MANAGEMENT DOES AND DOES NOT INCLUDE

Risk management of a project addresses risks that may affect its defined objectives of cost, time, scope and quality. Given a project plan, risk management generally looks at ways in which the project may not go according to plan. Risk management focuses on the defined project scope and objectives, and therefore does not include:

1. Risks or possible decisions that may kill the project. If the project ceases to exist, there are no risks to manage.

For example, risk management does not include risks such as the loss of funding, natural disaster that destroys all or part of the construction, acts of governments, etc.

2. Risks or possible decisions that may materially change the project. If the project objectives are changed substantially, risk management will start afresh on the "new" project.

For example, the YBID Implementation Strategy Memorandum materially changed the YBI Detour contract. The risk of such a decision was not in the risk register of the original contract.

In a nutshell, risk management is confined to quantifying risks that are intended to be covered by project and program contingency.

A.2 ABOUT "RISK" AND "OPPORTUNITY"

The concept of risk can include both upside as well as downside impacts. This means that the word "risk" can be used to describe uncertainties that, if they occurred, would have a negative or harmful effect, and the same word can also describe uncertainties that, if they occurred, would be helpful. In short, there are two sides to risk: threats and opportunities.

A risk that has no threat is a **"pure opportunity"**. It is simply an unplanned good thing that might happen. For example, a new design method might be released which we can apply to benefit our project.

Opportunity is the **inverse of threat** if a risk has both threat and opportunity. Where a risk variable exists on a continuous scale and there is uncertainty over the eventual outcome, instead of just defining the risk as the downside it might also be possible to consider upside potential. For example, if we have included escalation at 5% in our budget for future contracts and this rate could range from say 3% to 7% depending on economic conditions at the time of advertisement, we have an opportunity in the 3%-5% range and a threat in the 5%-7% range. Opportunity and threat exist in the one risk. If the budget were based on 7% escalation we would have only opportunity. If based on 3% we would have only threat.

Threat and opportunity can also depend on how we define the risk. For example, if the risk is that an external agency may relax its requirements and this saves us money relative to what we have budgeted currently in our plan, this is an opportunity. If the risk is defined as the agency may tighten its requirements and this adds to our costs, this is a threat. We can only separate the

opportunity and threat if we are certain that the agency may act only one way and not the other. If the risk is that the agency may change its requirements, we could have impacts that range from positive to negative. We would have both opportunity and threat in the same risk, and the degree of each would depend on what we have budgeted in our plan.

Uncertainty in the cost of major CCOs is another example of opportunity. If we enter an estimate into the CCO log and the final outcome could range from less than the estimate to more than the estimate, we have both an opportunity and a threat. The degree of opportunity and threat depends on where the estimate lies within the range.

PROJECTS IN DESIGN

Projects in design have the greatest potential for opportunities because the project is still open to changes. Risk reduction and avoidance are opportunities, as are value analysis, constructability reviews and innovations in design, construction methods and materials.

PROJECTS IN CONSTRUCTION

Once a project enters construction, the project objectives (scope, time and cost) are fixed contractually. Any changes are made using a contract change order (CCO). The only opportunity to save money or time is from a negative CCO such as resulting from a Cost Reduction Incentive Proposal (CRIP) by a contractor. Otherwise, CCOs add cost and/or time to the project. So, the prime opportunity during construction is to reduce or eliminate risks.

A.3 INTERPRETING RISK CURVES

Combining all risks of a contract using Monte Carlo simulation methods produces a risk cost curve such as in Figure 12. It is the familiar "bell curve" shape that covers all possible combinations of the risks, and can be thought of as a "smoothed out" version of a histogram that depicts the relative frequencies of small output cost ranges. It extends from zero cost at one end (none of the risks occur) to a very large cost number at the other end (all risks occur). The area under the density curve equals one, that is, it covers 100% of the possible outcomes.

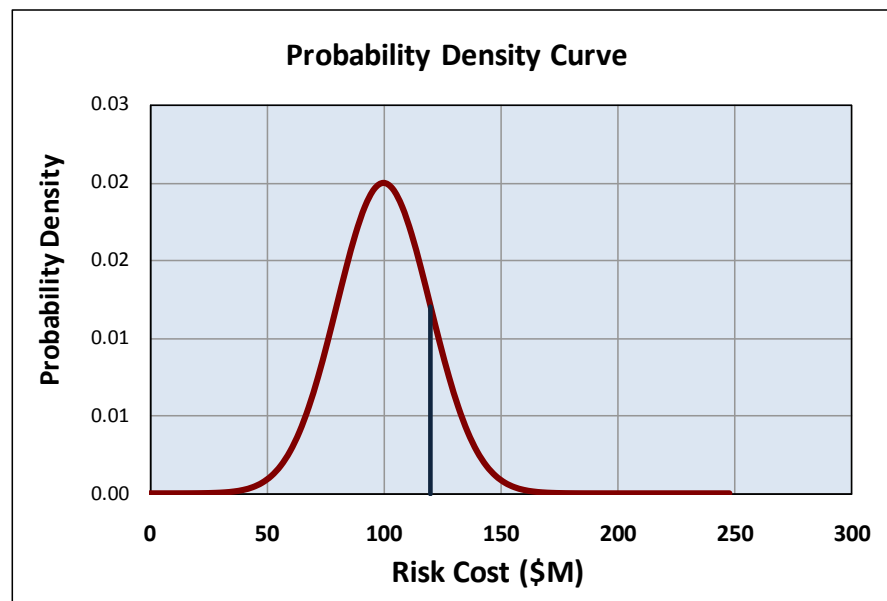


FIGURE 12 – PROBABILITY DENSITY CURVE

The probability density curve is not very convenient for determining the probability of a cost exceeding a specific value. For example, the probability of exceeding \$120M in Figure 12 is determined by calculating the area under the curve to the right of \$120M. Instead of performing such calculations from the probability density curve, it is transformed into the probability curve in Figure 13 by performing the area-under-the-curve calculations for all costs on the horizontal axis.

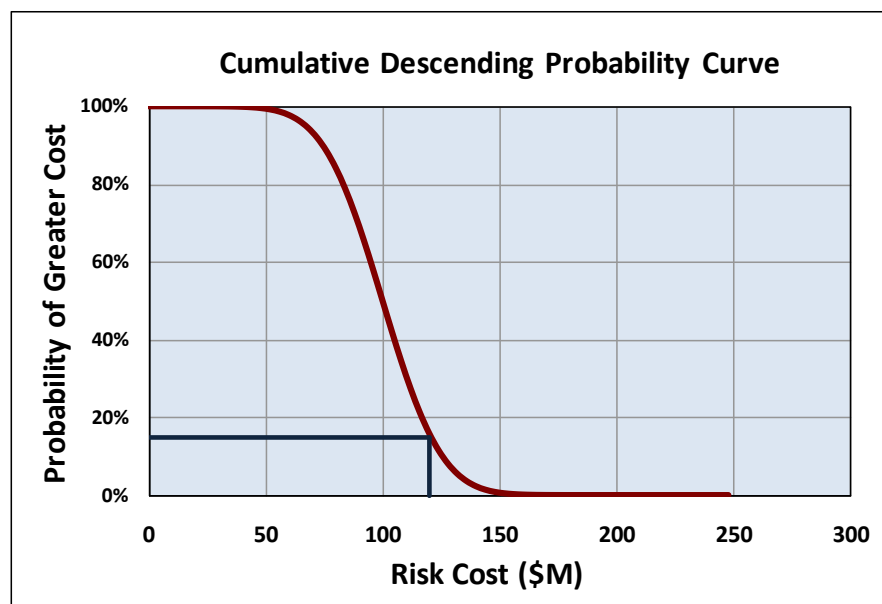


FIGURE 13 – CUMULATIVE DESCENDING PROBABILITY CURVE

The curve in Figure 13 can be used to directly read off the probability of exceeding any value of cost. For example, there is a 15% chance of exceeding \$120M. Note that although the curve appears to reach a zero probability of overrun at about \$150M, there is still less than a 1% chance of some cost greater than \$150M. None of the probabilities above \$150M are zero; they are just very small, much less than 1%.

Note that the curve does not include risks or possible decisions that may kill or materially change the project.

WHAT DO WE MEAN BY “RANGE”?

In our reports, we often refer to a “range” of risk management cost or draw on Program Contingency. Although the risk curve extends to very small values of probability, for practical purposes, we define “range” to cover about 99% of all possible outcomes. In other words, the “range” extends from where the risk curve appears to reach 100% probability to where it appears to reach 0% probability. For example, the “range” of risk cost in Figure 13 is from about \$50M to \$150M.

A.4 HOW RISKS ARE INSERTED INTO THE CORRIDOR SCHEDULE

The Corridor Schedule Team developed an intermediate level schedule for the Corridor to be used in evaluating schedule risk and recovery opportunities. This Corridor Schedule is a summarization of the contract schedules submitted by the various contractors and schedules developed by the Department for the contracts in design.

The Corridor Schedule Team has inserted into the schedule “risk” activities representative of the risks identified in each of the quarterly contract risk meetings. A single risk from the risk register can occur in several places in the schedule and therefore “risk” activities are created and evaluated for each occurrence.

To describe the process, consider the three sequential activities in Figure 14, adapted from a section of the Corridor Schedule. The data is fictitious, for illustrative purposes only.

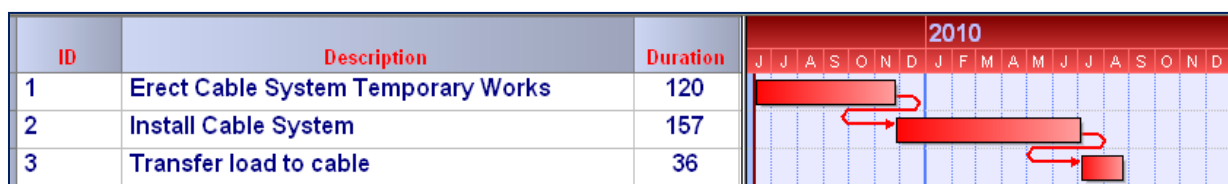


FIGURE 14 THREE ACTIVITIES FROM CORRIDOR SCHEDULE

Each activity has a scheduled duration, but the duration may not be certain. A range of uncertainty is estimated for each activity, expressed as a minimum, most likely and maximum duration in the rightmost columns of Figure 15. The duration uncertainty distribution is represented by the blue triangle.

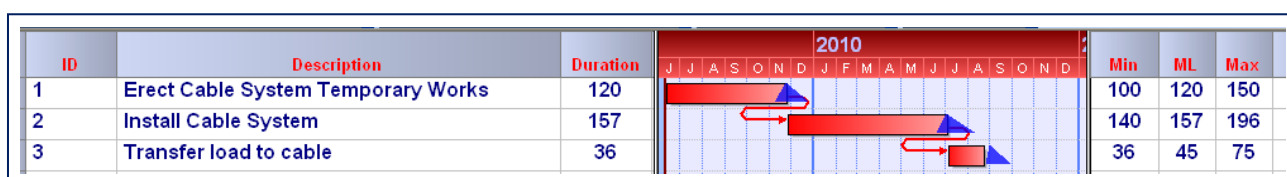
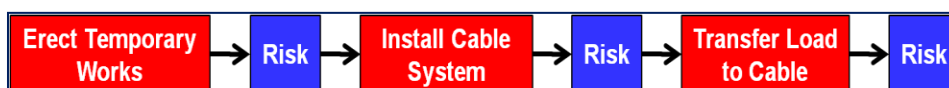


FIGURE 15 UNCERTAINTIES IN SCHEDULED DURATIONS

If an activity has a risk associated with it in the risk register, the risk is inserted after the activity in the form of a “risk activity”.



The example schedule in Figure 16 has the risk activities inserted.

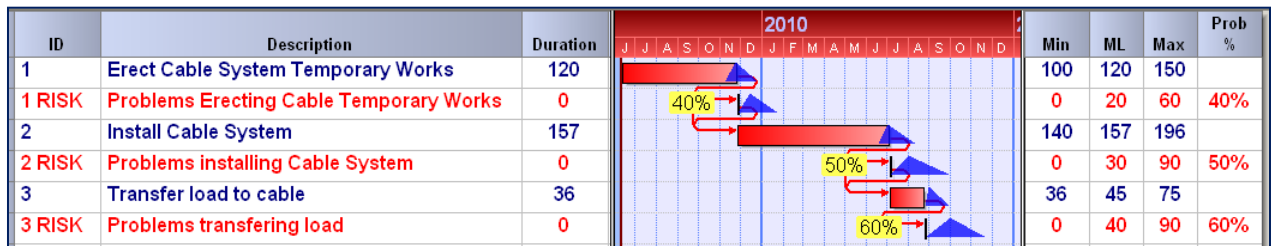


FIGURE 16 RISKS IN THE SCHEDULE

The risk activities (the red rows) appear as zero-duration activities so as not to change the schedule dates. Each risk activity has a probability of the risk occurring (“Prob %”) and a duration range defined by the values in the minimum (“Min”), most likely (“ML”) and maximum (“Max”) columns.

Since schedule risks can be concurrent and are not necessarily additive, the schedule is analyzed using Monte Carlo simulation to develop probabilistic schedule results. Each Monte Carlo iteration creates a version of the schedule by selecting at random which risk activities are included, and, for the included risk activities, a duration drawn at random for their respective duration ranges. For 1000 Monte Carlo iterations, analyzing the 1000 schedules produces the probability distributions of path durations through the schedule, probability distributions for key milestones, and the probability of an activity or risk activity being on a critical path (its “criticality”).

The probable critical paths are determined by tracing backward through the schedule. Starting from a finish milestone, the first activity on the path is the milestone’s predecessor having the highest criticality. The next activity is the highest-criticality predecessor of the first activity, and so on to the beginning of the schedule. There may be a juncture where there are two predecessors of approximately equal criticality. At this point the probable critical path splits into two, and each of these is traced back to the beginning. This is how primary, secondary and tertiary probable critical paths are determined.

Memorandum

TO: Toll Bridge Program Oversight Committee (TBPOC) **DATE:** April 28, 2010

FR: Andrew Fremier, Deputy Executive Director, BATA

RE: Agenda No. - 5a
Progress Reports
Item- Draft 2010 First Quarter Project Progress and Financial Update

Recommendation:
APPROVAL

Cost:
N/A

Schedule Impacts:
N/A

Discussion:

Included in this packet, for TBPOC approval, is a draft 2010 First Quarter Project Progress and Financial Update. The report is scheduled for distribution on May 13, 2010.

Attachment(s):

Draft 2010 First Quarter Project Progress and Financial Update (see end of binder)

San Francisco Bay Area Toll Bridge Seismic Retrofit and Regional Measure 1 Programs

2010 First Quarter Project Progress and Financial Update

DRAFT VERSION 5.0



**TOLL BRIDGE PROGRAM
OVERSIGHT COMMITTEE**

CALTRANS BAY AREA TOLL AUTHORITY CALIFORNIA TRANSPORTATION COMMISSION

Released: May 2010



YBITS Column W4R and Existing East Span Bridge



TOLL BRIDGE PROGRAM OVERSIGHT COMMITTEE

CALTRANS BAY AREA TOLL AUTHORITY CALIFORNIA TRANSPORTATION COMMISSION

Toll Bridge Program Oversight Committee
Department of Transportation
Office of the Director
1120 N Street
P.O. Box 942873
Sacramento, CA 94273-0001

May 14, 2010

Mr. Gregory Schmidt
Secretary of the Senate
State Capitol, Room 3044
Sacramento, CA 95814

Mr. E. Dotson Wilson
Chief Clerk of the Assembly
State Capitol, Room 3196
Sacramento, CA 95814

Dear Messrs. Schmidt and Wilson:

The Toll Bridge Program Oversight Committee (TBPOC) is pleased to submit the 2010 First Quarter Toll Bridge Seismic Retrofit Program Report, prepared pursuant to California Streets and Highways Code Section 30952. The TBPOC is tasked to perform project oversight and control over the Toll Bridge Seismic Retrofit Program (TBSRP) and comprises the Director of the Department of Transportation (Caltrans), the Executive Director of the Bay Area Toll Authority (BATA), and the Executive Director of the California Transportation Commission (CTC). This first quarter report includes project progress and activities for the Toll Bridge Seismic Retrofit Program through March 31, 2010.

On the San Francisco-Oakland Bay Bridge East Span Replacement Project, significant progress is being made both here in the Bay Area and around the world. The first 12 of 28 steel roadway boxes have arrived with eight already having been lifted into place. These boxes, fabricated in Shanghai, China, join other bridge components that have been arriving from around the country and the world. Our next shipment will include the first and longest sections of the tower and is expected to arrive this summer.

While each shipment represents a major step forward for the project, we continue to be mindful of the challenges that still remain for the project, such as completion of the last four roadway boxes that have just started fabrication due to protracted plan preparation. With our goal of achieving seismic safety by moving traffic off the old bridge and onto the new as soon as possible, we are exploring all risk mitigating options to get the new bridge to traffic by our 2013 target. One option being discussed is a "soft opening" of the bridge to traffic before non-essential structural and traffic systems are completed, like architectural lighting or removal of unneeded temporary supports structures. We will continue to report to you on our progress on the project in subsequent reports.

For the first quarter of 2010, our comprehensive risk assessment of the project has identified a range from \$300 to \$700 million in risks to the program contingency. It is important to note that our \$948.3 million in budgeted program contingency is sufficient to cover our risks to a 50 percent confidence level.

We continue to make excellent progress on the seismic retrofit of the Antioch and Dumbarton bridges, the two newest bridges to be added to the TBSRP by AB 1175. Bids for the Antioch Bridge retrofit contract were opened on March 10, 2010. The awarded low bid was so significantly less than the engineer's estimate for the work, that the TBPOC is recommending that the budget for the project be reduced from \$267 million to \$130 million. The contract for the Dumbarton Bridge retrofit project was advertised in March 2010, with the bid opening scheduled for late May.

The TBPOC is committed to providing the Legislature with comprehensive and timely reporting on the TBSRP. If there are any questions, or if any additional information is required, please do not hesitate to contact the members of the TBPOC.

Sincerely,

STEVE HEMINGER
TBPOC Chair
Executive Director
Bay Area Toll Authority

BIMLA G. RHINEHART
TBPOC Vice-Chair
Executive Director
California Transportation Commission

CINDY MCKIM
Chief Deputy Director
California Department of Transportation



TOLL BRIDGE PROGRAM OVERSIGHT COMMITTEE

CALTRANS BAY AREA TOLL AUTHORITY CALIFORNIA TRANSPORTATION COMMISSION

Toll Bridge Program Oversight Committee
Department of Transportation
Office of the Director
1120 N Street
P.O. Box 942873
Sacramento, CA 94273-0001

May 14, 2010

Mr. Bob Alvarado, Chair
California Transportation Commission
1120 N Street, Room 2221
Sacramento, CA 95814

Mr. James Earp, Vice-Chair
California Transportation Commission
1120 N Street, Room 2221
Sacramento, CA 95814

Dear Commissioners Alvarado and Earp:

The Toll Bridge Program Oversight Committee (TBPOC) is pleased to submit the 2010 First Quarter Toll Bridge Seismic Retrofit Program Report, prepared pursuant to California Streets and Highways Code Section 30952. The TBPOC is tasked to perform project oversight and control over the Toll Bridge Seismic Retrofit Program (TBSRP) and comprises the Director of the Department of Transportation (Caltrans), the Executive Director of the Bay Area Toll Authority (BATA), and the Executive Director of the California Transportation Commission (CTC). This first quarter report includes project progress and activities for the Toll Bridge Seismic Retrofit Program through March 31, 2010.

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Sincerely,

STEVE HEMINGER
TBPOC Chair
Executive Director
Bay Area Toll Authority

BIMLA G. RHINEHART
TBPOC Vice-Chair
Executive Director
California Transportation Commission

CINDY MCKIM
Chief Deputy Director
California Department of Transportation



SAS Eastbound Roadway Boxes placed onto the Temporary Structures

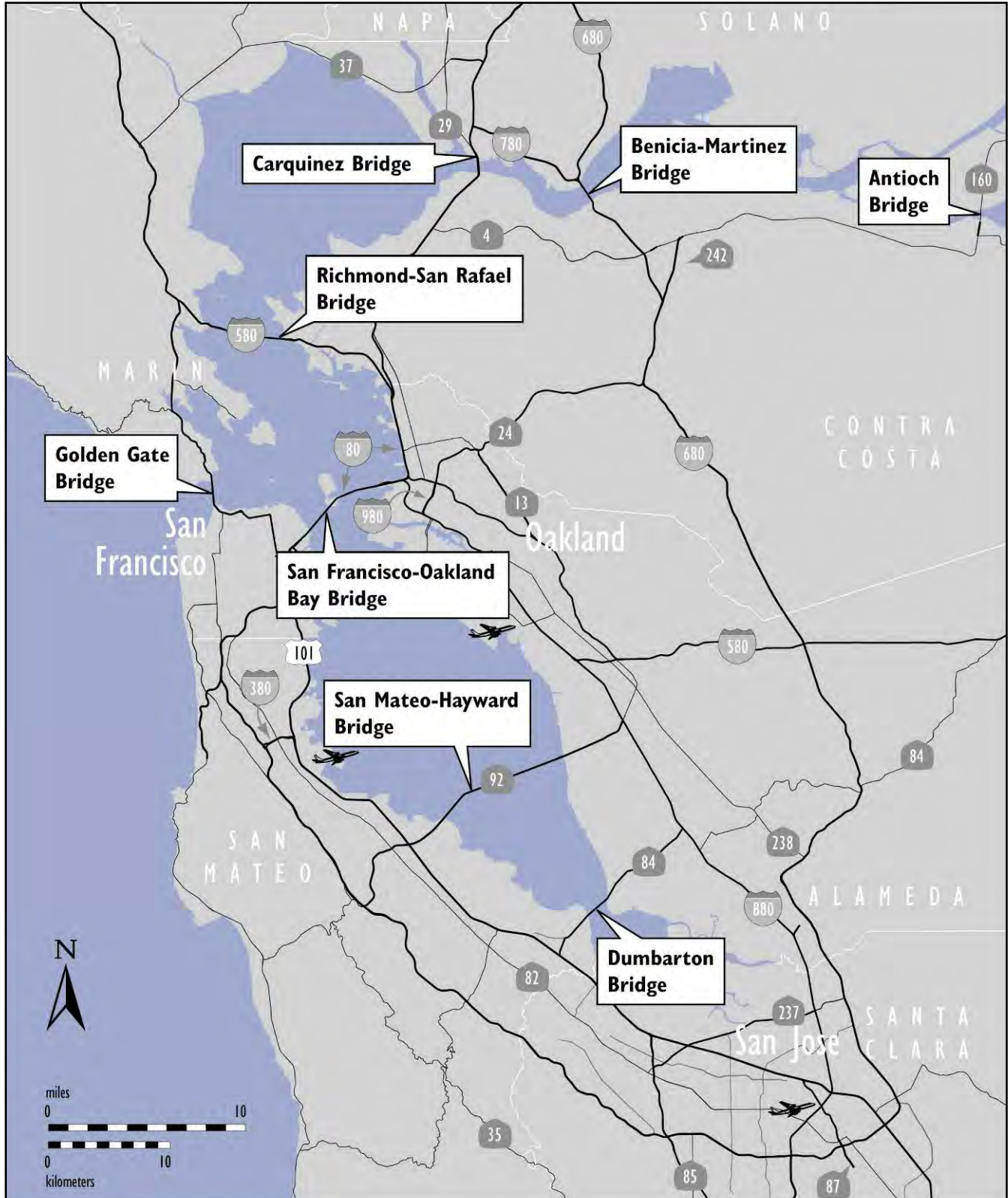


Shear-Leg Barge Crane Placing CB1 on Westbound Temporary
SAS Westbound Roadway Box Placed onto the Temporary Support
Structure

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Map of Bay Area Toll Bridges



* The Golden Gate Bridge is owned and operated by the Golden Gate Bridge, Highway, and Transportation District.

Introduction

In July 2005, Assembly Bill (AB) 144 (Hancock) created the Toll Bridge Program Oversight Committee (TBPOC) to implement a project oversight and project control process for the Benicia-Martinez Bridge and State Toll Bridge Seismic Retrofit Program projects. The TBPOC consists of the Caltrans Director, the Bay Area Toll Authority (BATA) Executive Director and the Executive Director of the California Transportation Commission (CTC). The TBPOC's project oversight and control processes include, but are not limited to, reviewing bid specifications and documents, providing field staff to review ongoing costs, reviewing and approving significant change orders and claims in excess of \$1 million (as defined by the Committee) and preparing project reports. AB 144 identified the Toll Bridge Seismic Retrofit Program and the new Benicia-Martinez Bridge Project as being under the direct oversight of the TBPOC.

On October 11, 2009, Governor Schwarzenegger approved Assembly Bill 1175 that added the Dumbarton and Antioch Bridges to the Toll Bridge Seismic Retrofit Program. A toll increase on the Bay Area's seven state-owned toll bridges will go into effect on July 1, 2010, in part, to fund the seismic retrofit of the Dumbarton and Antioch bridges. **The current status of the Toll Bridge Seismic Retrofit Program is as follows:**

Toll Bridge Seismic Retrofit Projects	Seismic Safety Status
Dumbarton Seismic Retrofit Project	Advertised
Antioch Bridge Seismic Retrofit	Awarded
San Francisco-Oakland Bay Bridge East Span Replacement	Construction
San Francisco-Oakland Bay Bridge West Approach Replacement	Complete
San Francisco-Oakland Bay Bridge West Span Seismic Retrofit	Complete
San Mateo-Hayward Bridge Seismic Retrofit	Complete
Richmond-San Rafael Bridge Seismic Retrofit	Complete
1958 Carquinez Bridge Seismic Retrofit	Complete
1962 Benicia-Martinez Bridge Seismic Retrofit	Complete
San Diego-Coronado Bridge Seismic Retrofit	Complete
Vincent Thomas Bridge Seismic Retrofit	Complete

The new Benicia-Martinez Bridge is part of a larger program of toll-funded projects called the Regional Measure 1 (RM1) Toll Bridge Program under the responsibility of BATA and Caltrans. While the rest of the projects in the RM1 program are not directly under the responsibility of the TBPOC, BATA and Caltrans will continue to report on their progress as an informational item. The RM1 program includes:

Regional Measure 1 Projects	Open to Traffic Status
Interstate 880/State Route 92 Interchange Reconstruction	Construction
New Benicia-Martinez Bridge	Open
Richmond-San Rafael Bridge Deck Overlay Rehabilitation	Open
Richmond-San Rafael Bridge Trestle, Fender & Deck Joint Rehabilitation	Open
Westbound Carquinez Bridge Replacement	Open
San Mateo-Hayward Bridge Widening	Open
State Route 84 Bayfront Expressway Widening	Open
Richmond Parkway	Open

SUMMARY OF MAJOR PROJECT HIGHLIGHTS, ISSUES, AND ACTIONS



SAS - Crossbeam(CB)1 Being Placed on Temporary Support Structure



SAS - Box Girders 5W Being Loaded onto Zhenhua 17 in Shanghai



SAS - W2 Cap Beam and YBITS Column W3L

Toll Bridge Seismic Retrofit Program Risk Management

A major element of the 2005 AB144, the law creating the TBPOC, was legislative direction to implement a more aggressive risk management program. Such a program has been implemented in stages over time to ensure development of a robust and comprehensive approach to risk management. We have reached a milestone with our risk management program with all elements now fully incorporated, resulting in one of the most detailed and comprehensive risk management programs in the country today.

A comprehensive risk assessment is performed for each project in the program. Based upon those assessments, a forecast is developed using the average cost of risk. These forecasts can both increase and decrease as risks are identified, resolved or retired. Nonetheless, we want to ensure that the public is informed of the risks we have identified and the possible expense they could necessitate.

As of the end of the first quarter 2010, the 50 percent probable draw on Program Contingency is \$526 million. The potential draw ranges from about \$300 million to \$700 million.

Program Contingency increased by \$190 million transferred from the Antioch and Dumbarton contracts. The current Program Contingency balance is sufficient to cover the cost of identified risks. Risk mitigation actions are continuously developed and implemented to reduce the potential draw on the Program Contingency.

San Francisco-Oakland Bay Bridge (SFOBB) East Span Seismic Replacement Project

SAS Superstructure Contract

The prime contractor constructing the Self-Anchored Suspension (SAS) Bridge from the completed Skyway to Yerba Buena Island is a joint venture of American Bridge/ Fluor (ABF). Significant progress is being made both here in the Bay Area and around the world. The first 12 of 28 steel roadway boxes have arrived with 8 already having been lifted into place. These boxes, fabricated in Shanghai, China, join other bridge components that have been arriving from around the country and the world. Shipments of roadway boxes will continue throughout the



SFO Bay Bridge Detour Structure Completed over the Labor Day Weekend

year along with our first shipments of the tower boxes. The first shipment of tower boxes, the longest and heaviest sections, is expected to arrive this summer. All bridge components undergo a rigorous quality review by the fabricator, ABF, and Caltrans to ensure that only bridge components that have been built in accordance to the specifications will be shipped.

On the critical path to completing the bridge is the fabrication of the last roadway sections at the east end of the new span, which unfortunately are also the most complex to fabricate. Furthermore, the start of fabrication of these segments has fallen behind schedule due to delays in the fabrication drawing preparation process. While steps have been taken to ensure completion of the shop drawings, efforts are now focused on accelerating the fabrication of the boxes.

With our goal of achieving seismic safety by moving traffic off the old bridge and onto the new as soon as possible, we are exploring all risk-mitigating options to get the new bridge to traffic by our 2013 target. One option being discussed is a “soft opening” of the bridge to traffic before non-essential structural and traffic systems are completed, like architectural lighting or removal of unneeded temporary support structures. We will continue to report to you on our progress on the project in subsequent reports.

Caltrans has established risk management teams to identify and evaluate our challenges and future potential

risks to completing the project on time and on budget. In particular, teams are reviewing cable-erection plans and mitigation actions. Based on the latest risk management assessment, there is a potential for a \$194 million increase on the SAS contract.

Yerba Buena Island Detour Contract

The Yerba Buena Island Detour contractor, C.C. Myers, has rolled out the existing bridge span and rolled in the new east tie-in span of the detour structure that diverts traffic off the existing bridge to the detour structure that now ties into the Yerba Buena Island Tunnel. The traffic switch occurred as scheduled on Labor Day weekend. Work is now progressing on the demolition of the old approach span and construction of a number of accelerated foundations for the future transition structures from the Self-Anchored Suspension (SAS) bridge to the tunnel. Upon removal of the old approach span, the area will be turned over to the Yerba Buena Island Transition Structures (YBITS) #1 contractor that will construct the new approach structures.

Yerba Buena Island Transition Structures #1 Contract

The YBITS#1 contract has been awarded to MCM Construction, the same contractor completing the Oakland Touchdown (OTD) #1 contract. Construction will not start until the demolition of the existing approach has been completed. Caltrans and the contractor are in the submittal and planning process for the contract.

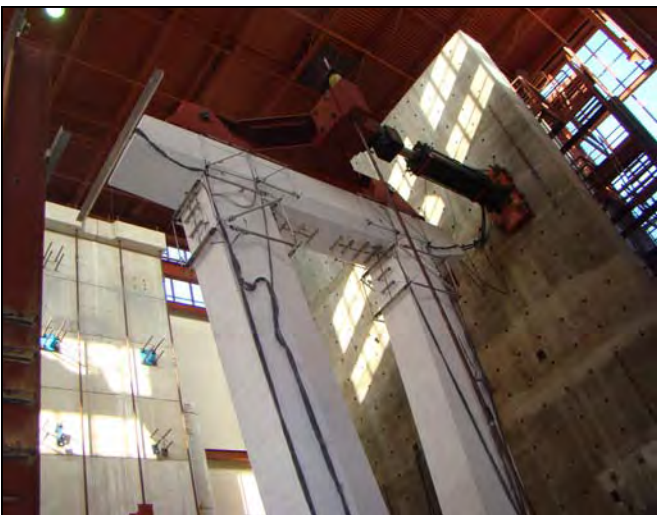
SUMMARY OF MAJOR PROJECT HIGHLIGHTS, ISSUES, AND ACTIONS



Oakland Touchdown #1 Newly Paved Temporary Access Road to Skyway



Oakland Touchdown #1 Service Platform



Mock-Up of Dumbarton/Antioch Pier Columns Undergoing Seismic Testing

Oakland Touchdown #1 Contract

The Oakland Touchdown (OTD) #1 contractor, MCM Construction, continues to be on schedule with a projected completion date of June 2010. The contract constructs the westbound approach from the toll plaza to the skyway structure and the portion of the eastbound approach that is not in conflict with the existing bridge structure. The remaining approach work will be completed by a future OTD #2 contract.

TBSRP Capital Outlay Support

Based on initial discussions with our contractors, early completion of the East Span Project was believed to be possible and sufficient to mitigate potential identified support cost increases. The support cost increases are primarily due to the need to re-advertise the SAS contract and to decisions made to increase our opportunities for early completion of the East Span Project. These decisions include a 12-month schedule extension provided during bid time to attract the maximum number of bidders for the SAS contract and extension of the YBI Detour contract to advance future foundation and column work of the transition structure and west-end deck reconstruction. Since we now judge early completion and the intended cost savings to be unlikely, we forecast a potential drawdown of \$293 million from the program contingency for project support. While the TBPOC will continue to seek opportunities to economize in this area, a budget change will be necessary.

TBSRP Programmatic Risks

This category includes risks that are not yet scoped within existing contracts and/or that spread across multiple contracts. The interdependencies between all of the contracts in the program result in the potential for one contract's delay to impact the other contracts.

Dumbarton Bridge Seismic Retrofit

When first conceived, the Toll Bridge Seismic Retrofit Program only identified seven of the nine state owned toll bridges to be in need of seismic retrofit, which excluded the Dumbarton and Antioch Bridges. Further seismic vulnerability studies completed by Caltrans and BATA on those structures determined that both structures were in need of retrofit based on current seismic standards.



Antioch Bridge



Dumbarton Bridge



Site Preparation for New Route 92 and Interstate 880 Separator

On October 11, 2009, Governor Schwarzenegger signed Assembly Bill 1175, which added the Dumbarton and Antioch Bridges to the Toll Bridge Seismic Retrofit Program. In part to fund these seismic retrofits, a toll increase on the seven state-owned toll bridges in the Bay Area will go into effect on July 1, 2010. The Dumbarton Bridge Seismic Retrofit Contract was advertised in March and bid opening is scheduled for May 27, 2010.

Antioch Bridge Seismic Retrofit

Bids for the Antioch Bridge Retrofit Contract were opened on March 10, 2010. The contract was awarded to California Engineering Contractors, Inc. on April 22, 2010. The awarded contract was significantly less than the engineer's estimate for the work and has resulted in a significant cost forecast reduction. The TBPOC is recommending that the budget for the project be reduced to account for the low bid. The original budget for the project was \$267 million. Because of the low bid, the TBPOC is forecasting a need of only \$130 million. The retrofit is forecast to be completed by August 2012.

Regional Measure 1 Toll Bridge Program (RM1)

Interstate 880/State Route 92 Interchange Reconstruction Project

On this interchange reconstruction contract, the new eastbound State Route 92 to northbound Interstate 880 direct connector structure (ENCONN) was completed and opened to detour traffic on May 16, 2009. The project is forecast to be substantially completed as planned in June 2011.

Toll Bridge Seismic Retrofit Program Cost Summary

	Contract Status	AB 144/SB 66 Budget (July 2005)	TBPOC Approved Changes	Current TBPOC Approved Budget (March 2010)	Cost to Date (March 2010)	Current Cost Forecast (March 2010)	Cost Variance	Cost Status
		a	b	c = a + b	d	e	f = e - c	
SFOBB East Span Seismic Replacement								
Capital Outlay Construction								
Skyway	Completed	1,293.0	(38.9)	1,254.1	1,236.9	1,254.1	-	●
SAS Marine Foundations	Completed	313.5	(32.6)	280.9	274.8	280.9	-	●
SAS Superstructure	Construction	1,753.7	-	1,753.7	905.5	1,991.4	237.7	●
YBI Detour	Construction	132.0	360.9	492.9	420.0	486.3	(6.6)	●
YBI Transition Structures (YBITS)		299.3	(93.0)	206.3	-	220.2	13.9	●
YBITS 1	Construction			144.0	-	156.9	12.9	●
YBITS 2	Design			59.0	-	60.0	1.0	●
YBITS Landscaping	Design			3.3	-	3.3	-	●
Oakland Touchdown (OTD)		283.8	4.2	288.0	203.5	283.0	(5.0)	●
OTD 1	Construction			212.0	195.6	211.2	(0.8)	●
OTD 2	Design			62.0	-	57.8	(4.2)	●
OTD Electrical Systems	Design			4.4	-	4.4	-	●
Submerged Electric Cable	Completed			9.6	7.9	9.6	-	●
Existing Bridge Demolition	Design	239.2	(0.1)	239.1	-	232.4	(6.7)	●
Stormwater Treatment Measures	Completed	15.0	3.3	18.3	16.7	18.3	-	●
Other Completed Contracts	Completed	90.3	-	90.3	89.2	90.3	-	●
Capital Outlay Support		959.3	-	959.3	818.1	1,262.2	302.9	●
Right-of-Way and Environmental Mitigation		72.4	-	72.4	51.2	72.4	-	●
Other Budgeted Capital		35.1	(3.3)	31.8	0.7	7.7	(24.1)	●
Total SFOBB East Span Replacement		5,486.6	200.5	5,687.1	4,016.6	6,199.2	512.1	
Antioch Bridge Seismic Retrofit								
Capital Outlay Construction and Mitigation	Construction	-	156.0	156.0	-	70.0	(86.0)	●
Capital Outlay Support		-	39.0	39.0	-	31.0	(8.0)	●
Total Antioch Bridge Seismic Retrofit		-	195.0	195.0	-	101.0	(94.0)	
Dumbarton Bridge Seismic Retrofit								
Capital Outlay Construction and Mitigation	Advertised	-	270.0	270.0	-	171.9	(98.1)	●
Capital Outlay Support		-	95.0	95.0	-	103.1	8.1	●
Total Dumbarton Bridge Seismic Retrofit		-	365.0	365.0	-	275.0	(90.0)	
Other Program Projects		2,268.4	(58.8)	2,209.6	2,157.6	2,192.6	(17.0)	●
Miscellaneous Program Costs		30.0	-	30.0	24.7	30.0	-	●
Net Programmatic Risks		-	-	-	-	78.0	78.0	●
Program Contingency		900.0	48.3	948.3	-	422.2	(526.1)	●
Total Toll Bridge Seismic Retrofit Program		8,685.0	750	9,435.0	6,198.9	9,298.0	(137.0)	●

- Within approved schedule and budget
- Identified potential project risks that could significantly impact approved schedules and budgets if not mitigated
- Known project impacts with forthcoming changes to approved schedules and budgets

Toll Bridge Seismic Retrofit Program Schedule Summary

	AB144/SB 66 Project Completion Schedule Baseline (February 2005)	TBPOC Approved Changes (Months)	Current TBPOC Approved Completion Schedule (March 2010)	Current Completion Forecast (March 2010)	Schedule Variance (Months)	Schedule Status	Remarks/Notes
	g	h	i = g + h	j	k = j - i	l	
SFOBB East Span Seismic Replacement							
Contract Completion							
Skyway	Apr 2007	8	Dec 2007	Dec 2007	-	●	See Page 30
SAS Marine Foundations	Jun 2008	(5)	Jan 2008	Jan 2008	-	●	See Page 20
SAS Superstructure	Mar 2012	19	Oct 2013	Oct 2013	-	●	See Page 23
YBI Detour	Jul 2007	41	Dec 2010	Dec 2010	-	●	See Page 16
YBI Transition Structures (YBITS)	Nov 2013	16	Mar 2015	Mar 2015	-		See Page 18
YBITS 1			Dec 2013	Dec 2013	-	●	
YBITS 2			Mar 2015	Mar 2015	-	●	
YBITS Landscaping			TBD	TBD	-	●	
Oakland Touchdown	Nov 2013	16	Mar 2015	Mar 2015	-		See Page 31
OTD 1			June 2010	Jun 2010	-	●	
OTD 2			Mar 2015	Mar 2015	-	●	
OTD Electrical Systems			TBD	TBD	-	●	
Submerged Electric Cable			Jan 2008	Jan 2008	-	●	
Existing Bridge Demolition	Sep 2014	15	Dec 2015	Dec 2015	-	●	
Stormwater Treatment Measures	Mar 2008	-	Mar 2008	Mar 2008	-	●	
SFOBB East Span Bridge Opening and Other Milestones							
OTD Westbound Access			Aug 2009	Aug 2009	-	●	
YBI Detour Open			Sep 2009	Sep 2009	-	●	See Page 16
Westbound Open	Sep 2011	19	Apr 2013	Apr 2013	-	●	
Eastbound Open	Sep 2012	15	Dec 2013	Dec 2013	-	●	
Antioch Bridge Seismic Retrofit							
Contract Completion			Aug. 2012	Aug. 2012		●	See page 36
Dumbarton Bridge Seismic Retrofit							
Contract Completion			Sep 2013	Sep 2013		●	See Page 37

Notes: 1) Figures may not sum up to totals due to rounding effects.
2) TBSRP Forecasts for the Monthly Reports are generally updated on a quarterly basis in conjunction with quarterly risk analysis assessments for the TBSRP Projects.

Regional Measure 1 Program Cost Summary

	Contract Status	BATA Baseline Budget (July 2005)	BATA Approved Changes	Current BATA Approved Budget (March 2010)	Cost to Date (March 2009)	Current Cost Forecast (March 2010)	Cost Variance	Cost Status
		a	b	c = a + b	d	e	f = e - c	
Interstate 880/Route 92 Interchange Reconstruction								
Capital Outlay Construction	Construction	94.8	60.2	161.0	88.5	161.0	-	●
Capital Outlay Support		28.8	34.6	63.4	52.1	63.4	-	●
Capital Outlay Right-of-Way		9.9	7.0	16.9	12.0	16.9	-	●
Project Reserve		0.3	3.4	3.7	-	3.7	-	
Total I-880/SR-92 Interchange Reconstruction		133.8	111.2	245.0	152.6	245.0	-	
Other Completed Program Projects		1,978.8	182.6	2161.4	2085.6	2161.4	-	
Total Regional Measure 1 Toll Bridge Program		2,112.6	293.8	2,406.4	2,238.2	2,406.4	-	

- Within approved schedule and budget
- Identified potential project risks that could significantly impact approved schedules and budgets if not mitigated
- Known project impacts with forthcoming changes to approved schedules and budgets

Regional Measure 1 Program Schedule Summary

	BATA Baseline Completion Schedule (July 2005)	BATA Approved Changes (Months)	Current BATA Approved Completion Schedule (March 2010)	Current Completion Forecast (March 2010)	Schedule Variance (Months)	Schedule Status	Remarks/Notes
	g	h	i = g + h	j	k = j - i	l	
Interstate 880/Route 92 Interchange Reconstruction							
Contract Completion							
Interchange Reconstruction	Dec 2010	6	Jun 2011	Jun 2011	-	●	See Page 48

Notes: 1) Figures may not sum to totals due to rounding effects.





TOLL BRIDGE SEISMIC RETROFIT PROGRAM

Placement of SAS Roadway Box Lift 4 West

TOLL BRIDGE SEISMIC RETROFIT PROGRAM

San Francisco-Oakland Bay Bridge Seismic Retrofit Strategy

When a 250-ton section of the upper deck of the East Span collapsed during the 7.1-magnitude Loma Prieta Earthquake in 1989, it was a wake-up call for the entire Bay Area. While the East Span quickly reopened within a month, critical questions lingered: How could the Bay Bridge—a vital regional lifeline structure—be strengthened to withstand the next major earthquake? Seismic experts from around the world determined that to make each separate element seismically safe on a bridge of this size, the work must be divided into numerous projects. Each project presents unique challenges. Yet there is one common challenge — the need to accommodate the more than 280,000 vehicles that cross the bridge each day.



Overview of the Completed West Approach Replacement Structure

West Approach Seismic Replacement Project

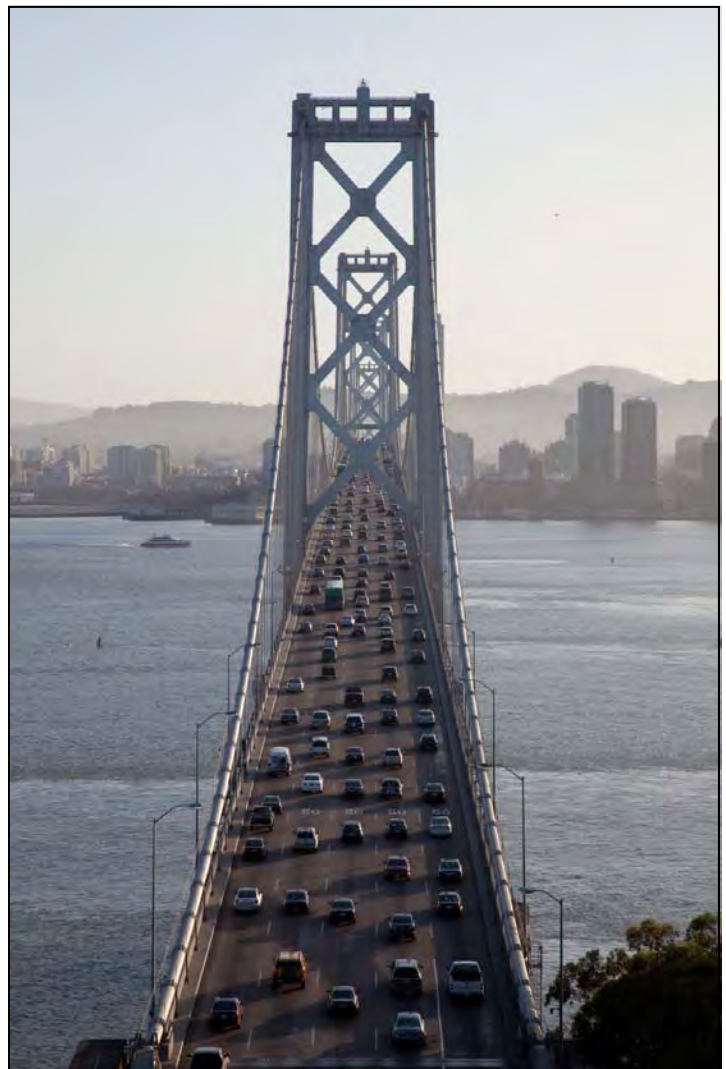
Project Status: Completed 2009

Seismic safety retrofit work on the West Approach in San Francisco—bounded on the west by 5th Street and on the east by the anchorage of the west span at Beale Street—involved completely removing and replacing this one-mile stretch of Interstate 80, as well as six on- and off-ramps within the confines of the West Approach's original footprint. This project was completed on April 8, 2009.

West Span Seismic Retrofit Project

Project Status: Completed 2004

The West Span lies between Yerba Buena Island and San Francisco and is made up of two complete suspension spans connected at a center anchorage. Retrofit work included adding massive amounts of steel and concrete to strengthen the entire West Span, along with new seismic shock absorbers and bracing.



West Span of the Bay Bridge

East Span Seismic Replacement Project

Rather than a seismic retrofit, the two-mile-long East Span is being completely rebuilt. When completed, the new East Span will consist of several different sections, but will appear as a single streamlined span. The eastbound and westbound lanes of the East Span will no longer include upper and lower decks. The lanes will instead be parallel, providing motorists with expansive views of the bay. These views will also be enjoyed by bicyclists and pedestrians, thanks to a new path on the south side of the bridge that will extend all the way to Yerba Buena Island. The new span will be aligned north of the existing bridge to allow traffic to continue to flow on the existing bridge as crews build the new span.

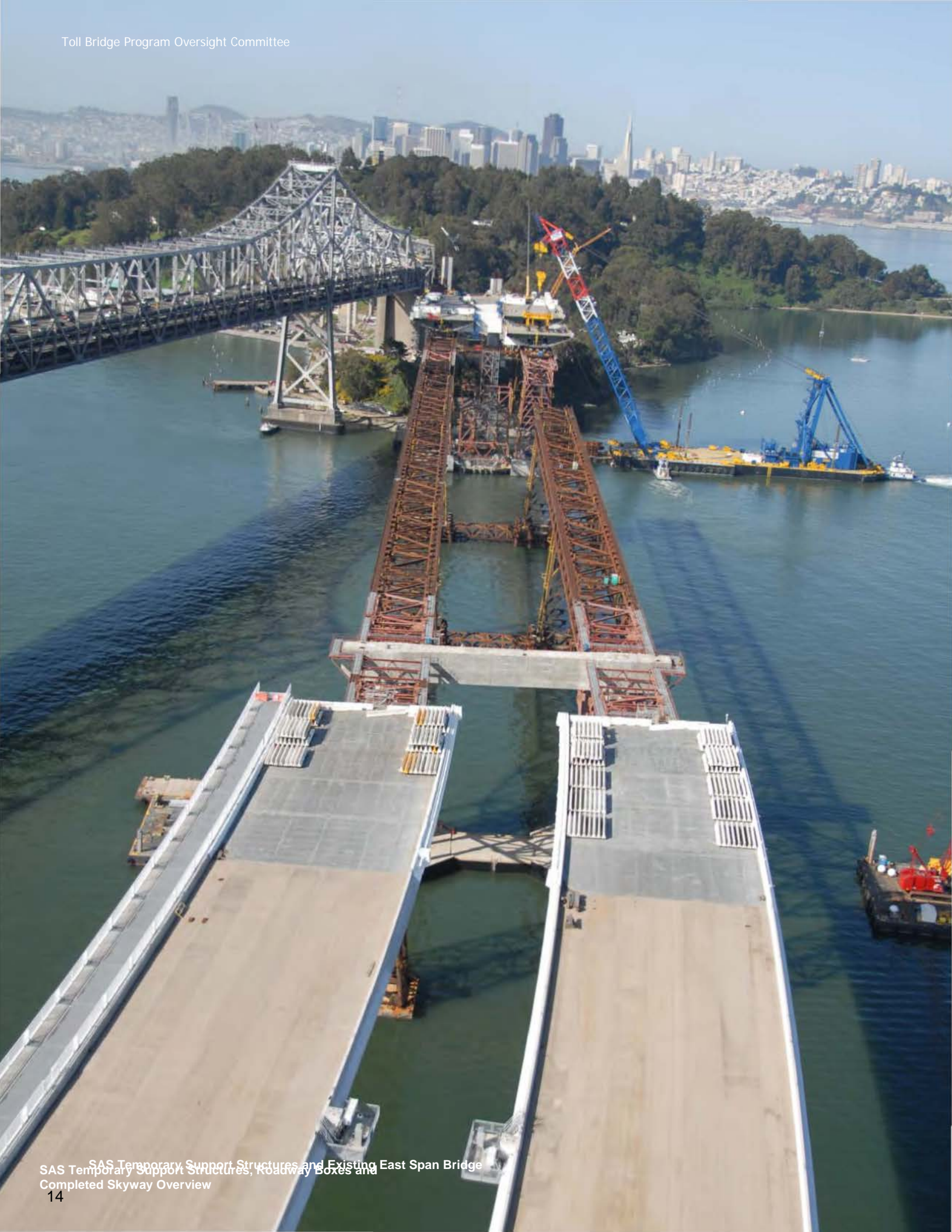
The new span will feature the world’s longest Self-Anchored Suspension (SAS) bridge that will be connected to an elegant roadway supported by piers (Skyway), which will gradually slope down toward the Oakland shoreline (Oakland Touchdown). A new transition structure on Yerba Buena Island (YBI) will connect the SAS to the YBI Tunnel and will transition the East Span’s side-by-side traffic to the upper and lower decks of the tunnel and West Span.

When construction of the new East Span is complete and vehicles have been safely rerouted to it, the original East Span will be demolished.



Architectural Rendering of Skyway and the New Self-Anchored Suspension Bridge Looking Towards Yerba Buena Island





SAS Temporary Support Structures and Existing East Span Bridge
Completed Skyway Overview

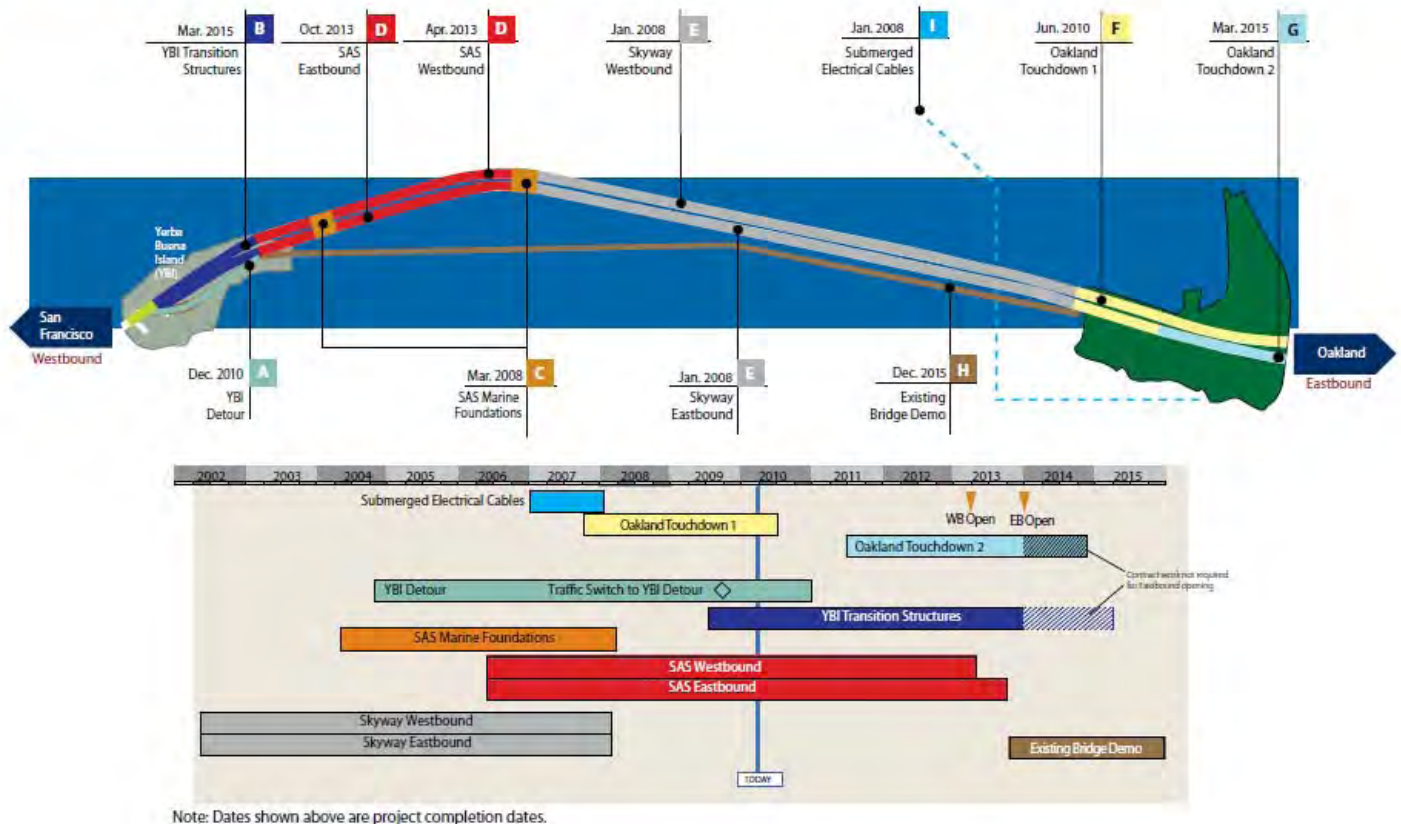
TOLL BRIDGE SEISMIC RETROFIT PROGRAM

San Francisco-Oakland Bay Bridge East Span Replacement Project Summary

The new East Span bridge can be split into four major components—the Skyway and the Self-Anchored Suspension bridge in the middle and the Yerba Buena Island Transition Structures and Oakland Touchdown approaches at either end. Each component is being constructed by one to three separate contracts that all have been sequenced together.

Highlighted below are the major East Span contracts and their schedules. The letter designation before each contract corresponds to contract descriptions in the report.

SFOBB East Span Work Sequence



TOLL BRIDGE SEISMIC RETROFIT PROGRAM

San Francisco-Oakland Bay Bridge East Span Replacement Project Yerba Buena Island Detour (YBID)

As with all of the Bay Bridge's seismic retrofit projects, crews must build the Yerba Buena Island Transition Structures (YBITS) without disrupting traffic. To accomplish this daunting task, YBID eastbound and westbound traffic was shifted off the existing roadway and onto a temporary detour on Labor Day weekend 2009. Drivers will use this detour, just south of the original roadway, until traffic is moved onto the new East Span.

A YBID Contract

Contractor: C.C. Myers Inc.

Approved Capital Outlay Budget: \$492.9 M

Status: 87% Complete as of March 2010

This contract was originally awarded in early 2004 to construct the detour structure for the planned 2006 opening of the new East Span. Due to the re-advertisement of the SAS superstructure contract in 2005 because of a lack of funding at the time, the bridge opening was rescheduled to 2013. To better integrate the contract into the current East Span schedule and to improve seismic safety and mitigate future construction risks, the TBPOC has approved a number of changes to the contract, including adding the deck replacement work near the tunnel that was rolled into place over Labor Day weekend 2007, advancing future transition structure foundation work and making design enhancements to the temporary detour structure.

Detour Viaduct Fabrication and Construction

The detour viaduct runs parallel to the existing lanes on the island and ties back into the existing bridge and tunnel. Speed limits have been reduced due to the turns needed to get on and off the detour. The viaduct looks quite similar to the existing bridge, with steel cross beams and girders and a concrete roadway deck. To ensure a good fit, the steel viaduct truss members were pre-fitted during fabrication in South Korea and Oregon.

Status: Completed.



Successful Labor Day Weekend 2007 Roll-In Structure to the Tunnel

These changes have increased the budget and forecast for the contract to cover the revised project scope and potential project risks.

Tunnel Approach Roadway Replacement

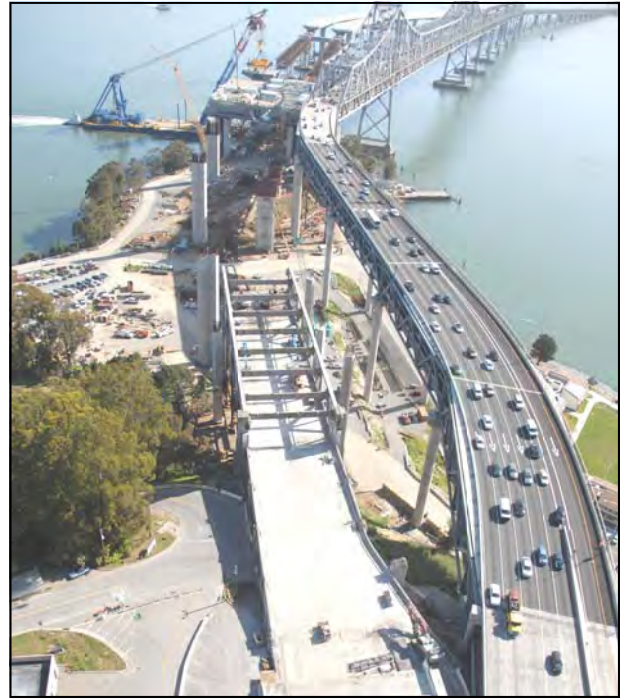
The first in a series of activities to open the detour viaduct was completed in 2007 with the replacement of a 350-foot-long stretch of upper-deck roadway just east of the Yerba Buena Island Tunnel. During this historic milestone, the entire Bay Bridge was closed over the 2007 Labor Day weekend so crews could demolish and replace the old section of the deck with a seismically upgraded 6,500-ton precast section of viaduct that was literally pushed into place (see photo above).

Yerba Buena Island Detour (YBID) Existing Bridge Demolition

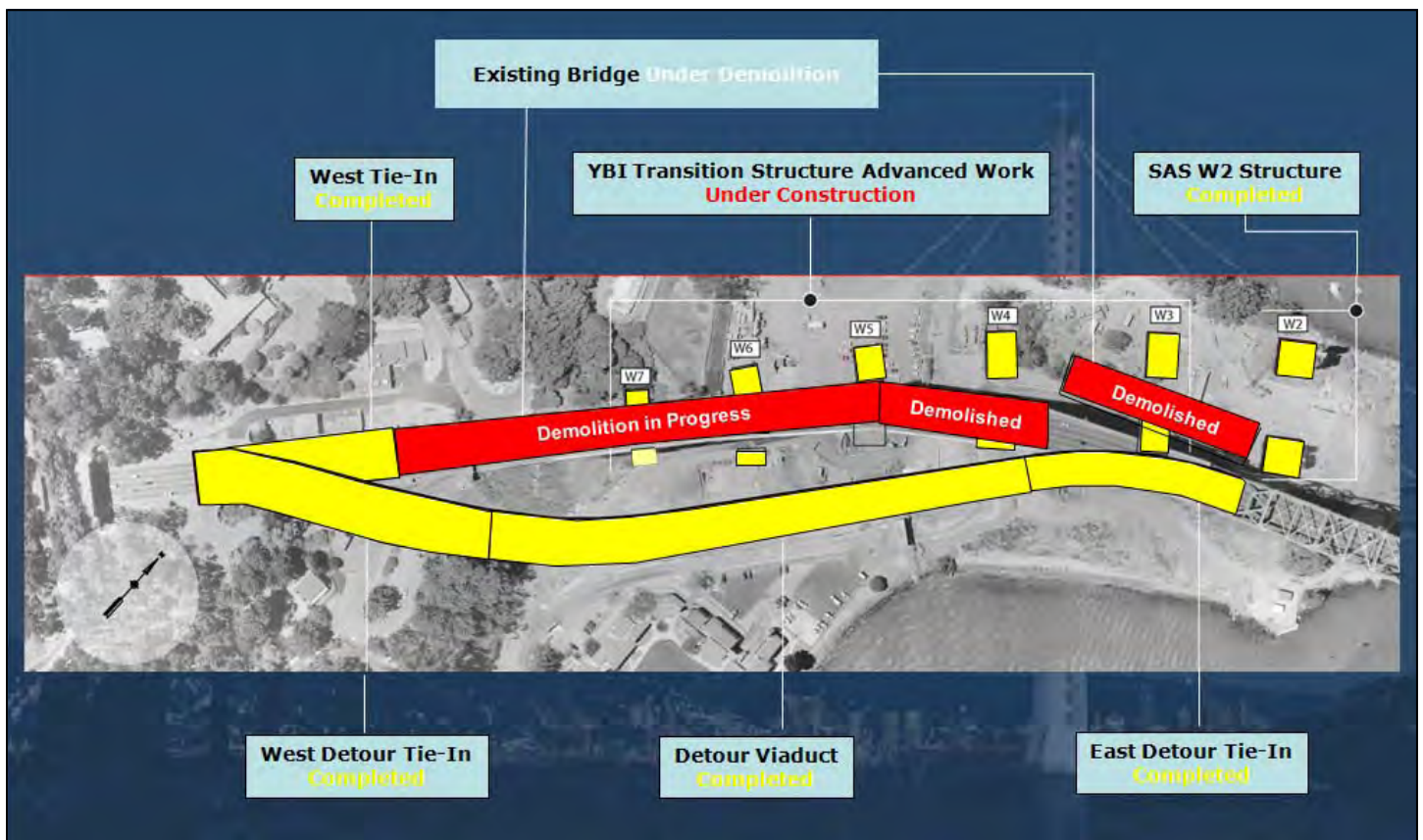
Shifting traffic to the Yerba Buena Island Detour was the most significant realignment of the bridge to date. To accomplish this, crews cut away a 288-foot portion of the existing truss bridge and replaced it with a connection to the detour. This dramatic maneuver involved aerial construction that occurred more than 100 feet above the ground. Vehicles will travel on the detour until the completion of the new East Span.

This “S” curve detour now allows for the Yerba Buena Island demolition of the existing structure to proceed. This is a critical step in the overall East Span bridge construction.

Status: Started in early September 2009, work is ongoing on the demolition of the old viaduct to make way for the Yerba Buena Island Transition Structures #1 contract. and is forecast to be completed in June 2010.



Demolition of Existing Bridge



Overview of Yerba Buena Island Detour Contract Scope of Work and Current Status



TOLL BRIDGE SEISMIC RETROFIT PROGRAM

San Francisco-Oakland Bay Bridge East Span Replacement Project Yerba Buena Island Transition Structures (YBITS)

The new Yerba Buena Island Transition Structures (YBITS) will connect the new SAS bridge span to the existing Yerba Buena Island Tunnel, transitioning the new side-by-side roadway decks to the upper and lower decks of the tunnel. The new structures will be cast-in-place reinforced concrete structures that will look very similar to the already constructed Skyway structures. While some YBITS foundations and columns have been advanced by the YBID contract, the remaining work will be completed under three separate YBITS contracts.

B YBITS #1 Contract

Contractor: **MCM Construction, Inc**

Current Capital Outlay Forecast: **\$159.9 M**

Status: **In Construction**



Yerba Buena Island Transition Structure YBITS Looking West from SAS

The YBITS #1 contract will construct the mainline roadway structures from the SAS bridge to the YBI tunnel. On December 15, 2009, Caltrans opened three bids for the Yerba Buena Island Transitions Structures (YBITS) #1 contract. On February 4, 2010, Caltrans awarded the YBITS #1 Contract to MCM Construction, Inc. Construction work will start when the YBID contractor has completed demolition of the old viaduct structure. MCM Construction, Inc. is also the firm constructing the Oakland Touchdown #1 contract.

Status: MCM Construction started work on submittals on their first work day on March 10, 2010.



Rendering of Overview of Future Yerba Buena Island Transition Structures (top), in progress with Detour Viaduct (bottom) Completed

YBITS #2 Contract

Contractor: TBD

Current Capital Outlay Forecast: \$47.7 M

Status: **In Design**

The YBITS #2 contract will demolish the detour viaduct after all traffic is shifted to the new bridge and will construct a new eastbound on-ramp to the bridge in its place. The new ramp will also provide the final link for bicycle/pedestrian access off the SAS bridge onto Yerba Buena Island.

YBITS Landscaping Contract

Contractor: TBD

Current Capital Outlay Forecast: \$3.3 M

Status: **In Design**

Upon completion of the YBITS work, a follow-on landscaping contract will be executed to re-plant and landscape the area.

Yerba Buena Island Transition Structures Advanced Work

Due to the re-advertisement of the SAS superstructure contract in 2005, it became necessary to temporarily suspend the detour contract and make design changes to the viaduct. To make more effective use of the extended contract duration and to reduce overall project schedule and construction risks, the TBPOC approved the advancement of foundation and column work from the Yerba Buena Island Transition Structures contract.

Status: Advanced foundations and columns for piers W3, W5 and W7 are under construction. Foundation piling for pier W5 has been completed and the slab has been poured for W5R. See page 17 for a diagram of pier locations.



Yerba Buena Island Transition Structures



TOLL BRIDGE SEISMIC RETROFIT PROGRAM

San Francisco-Oakland Bay Bridge East Span Replacement Project Self-Anchored Suspension (SAS) Bridge

If one single element bestows world class status on the new Bay Bridge East Span, it is the Self-Anchored Suspension (SAS) bridge. This engineering marvel will be the world's largest SAS span at 2,047 feet in length, as well as the first bridge of its kind built with a single tower.

The SAS was separated into three separate contracts—construction of the land-based foundations and columns at Pier W2; construction of the marine-based foundations and columns at Piers T1 and E2; and construction of the SAS steel superstructure, including the tower, roadway, and cabling. Construction of the foundations at Pier W2 and at Piers T1 and E2 was completed in 2004 and 2007, respectively.

SAS Land Foundation Contract

Contractor: West Bay Builders, Inc.

Approved Capital Outlay Budget: \$26.4 M

Status: Completed October 2004

The twin W2 columns on Yerba Buena Island provide essential support for the western end of the SAS bridge, where the single main cable for the suspension span will extend down from the tower and wrap around and under the western end of the roadway deck. Each of these huge columns required massive amounts of concrete and steel and are anchored 80 feet into the island's solid bedrock.



SAS T1 Trestle Overview



SAS Overview of W2 Cap Beam

C SAS Marine Foundations Contract

Contractor: Kiewit/FCI/Manson, Joint Venture

Approved Capital Outlay Budget: \$280.9 M

Status: Completed January 2008

Construction of the piers at E2 and T1 required significant on-water resources to drive the foundation support piles down, not only to bedrock, but also through the bay water and mud (see rendering on facing page).

The T1 foundation piles extend 196 feet below the waterline and are anchored into bedrock with heavily reinforced concrete rock sockets that are drilled into the rock. Driven nearly 340 feet deep, the steel and concrete E2 foundation piles were driven 100 feet deeper than the deepest timber piles of the existing east span in order to get through the bay mud and reach solid bedrock.

D SAS Superstructure Contract

Contractor: American Bridge/Fluor Enterprises, Joint Venture

Approved Capital Outlay Budget: \$1.75 B

Status: 51% Complete as of March 2010

The SAS bridge is not just another suspension bridge. Rising 525 feet above mean sea level and embedded in rock, the single-tower SAS span is designed to withstand a massive earthquake. Traditional main cable suspension bridges have twin cables with smaller suspender cables connected to them. These cables hold up the roadbed and are anchored to the east end of the box girders. While there will appear to be two main cables on the SAS, there will actually only be one. This single cable will be anchored within the eastern end of the roadway, carried over the tower and then wrapped around the two side-by-side decks at the western end.

The single steel tower will be made up of four separate legs connected by shear link beams which function much like a fuse in an electrical circuit. These beams will absorb most of the impact from an earthquake, preventing damage to the tower legs.

The next several pages highlight the construction sequence of the SAS and are followed by detailed updates on specific construction activities.



Architectural Rendering of New Self-Anchored Suspension Span and Skyway



TOLL BRIDGE SEISMIC RETROFIT PROGRAM

Self-Anchored Suspension (SAS) Construction Sequence

STEP 1 - CONSTRUCT TEMPORARY SUPPORT STRUCTURES

Temporary support structures will need to be erected from the Skyway to Yerba Buena Island to support the new SAS bridge during construction.

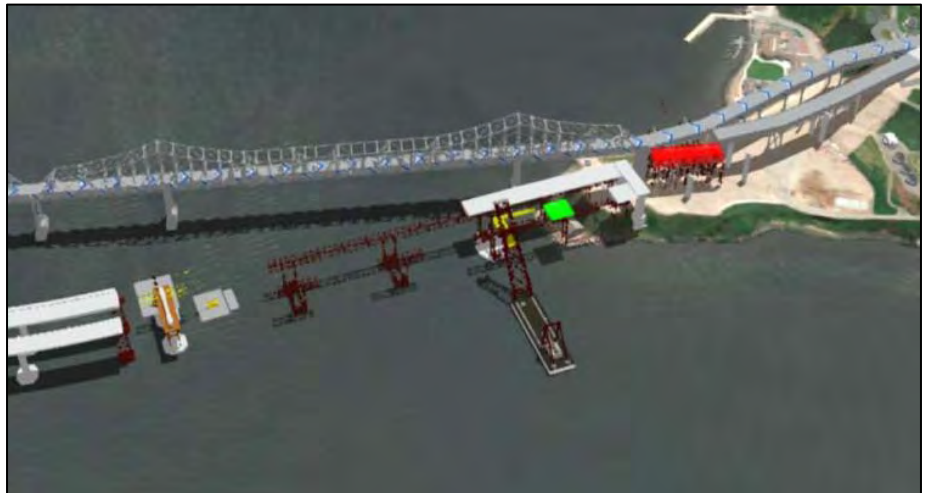
Status: Foundations and the temporary support structures are substantially complete.



STEP 2 - INSTALL ROADWAYS

The roadway boxes are being lifted into place by using the shear-leg crane barge. The boxes are being bolted and welded together atop the temporary support trusses to form two continuous parallel steel roadway boxes.

Status: The first four eastbound and westbound roadway boxes have been lifted into place and are being bolted and welded together. To date, three crossbeams have been erected between the first four roadway boxes. The second shipment of roadway boxes arrived on April 18, 2010.



STEP 3 - INSTALL TOWER

Each of the four legs of the tower will be erected in five separate lifts. The first lift will use the shear-leg crane barge while the remaining higher lifts will use a temporary support tower and lifting jacks.

Status: The first shipment of tower sections is in trial assembly and forecast to ship in mid-2010 (see page 24 for more information).



STEP 4 - MAIN CABLE AND SUSPENDER INSTALLATION

The main cable will be pulled from the east end of the SAS bridge, over the tower, and wrapped around the west end before returning back. Suspender cables will be added to lift the roadway decks off the temporary support structure.

Status: Cable installation is pending the erection of the tower and roadway spans. Shipment for the first half of the cables arrived in January 2010, and the second half is being fabricated and anticipated to ship in mid-2010.



STEP 5 - WESTBOUND OPENING

The new bridge will first open in the westbound direction pending completion of the Yerba Buena Island Transition Structures.

Status: Westbound opening is forecast for April 2013. Westbound access to the Skyway from Oakland was completed by the Oakland Touchdown #1 contract in 2009.



STEP 6 - EASTBOUND OPENING

Opening of the bridge in the eastbound direction is pending completion of Oakland Touchdown #2. Westbound traffic will need to be routed off the existing bridge before the eastbound approach structure can be completed.

Status: The eastbound opening is forecast for December 2013. The eastbound temporary detour road will be completed in April 2010 by the OTD#1 contractor.



TOLL BRIDGE SEISMIC RETROFIT PROGRAM

Self-Anchored Suspension (SAS) Superstructure Fabrication Activities

Roadway and Tower Segments

Like giant three-dimensional jigsaw puzzles, the roadway and tower segments of the SAS bridge are hollow steel shells that are internally strengthened and stiffened by a highly engineered network of welded steel ribs and diaphragms. The use of steel in this manner allows for a flexible yet relatively light and strong structure able to withstand the massive loads placed on the bridge during seismic events.

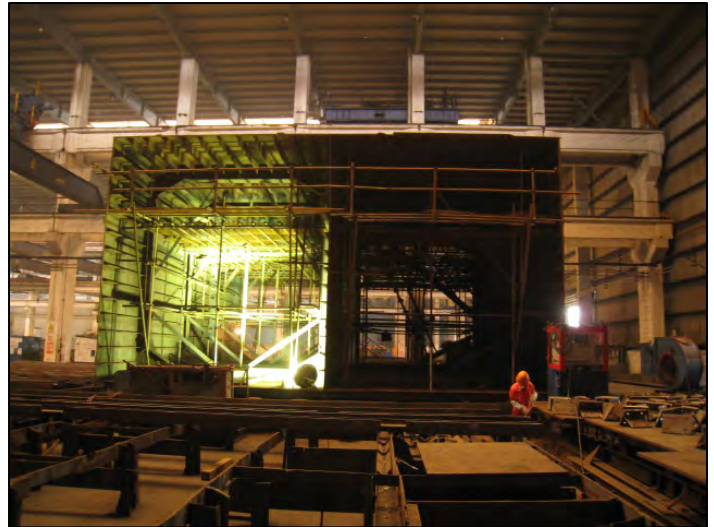
On the critical path to completing the bridge are the fabrication of the last two roadway sections (segments 13 and 14 east and west). Start of fabrication of these segments has fallen behind schedule due to delays in the fabrication drawing preparation process. The TBPOC has taken steps to ensure completion of the shop drawings by March 2010. These delays will likely preclude the westbound opening of the bridge in 2012, but we continue to push for full opening of the bridge in 2013 (see additional progress photos on pages [70 through 75](#)).

Roadway Fabrication Status: The contractor has reported that fabrication of the roadway boxes has fallen 15 months behind schedule due to the complexity of the design and fabrication.

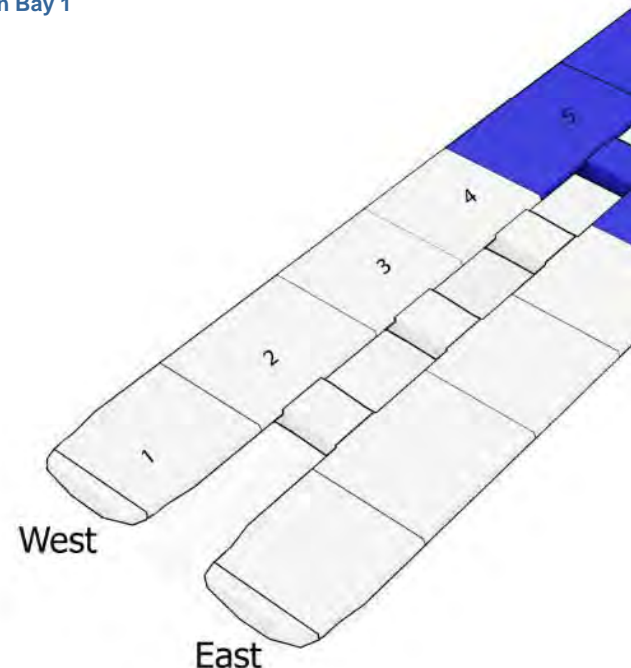
As shown in the diagram to the right, roadway segments 5 through 6 were shipped on March 30 and arrived in Oakland on April 18, 2010 where they were offloaded for storage onto barges, while segments 7 through 9 (East and West) are in blast, paint and trial assembly. The first 8 box girders which arrived on January 21, 2010, have been lifted into place and are in process of being bolted and welded together.

All components have undergone a rigorous quality review by ZPMC, ABF, and Caltrans to ensure that only bridge components that have been built in accordance to the specifications will be shipped.

Tower Fabrication Status: The contractor has reported that fabrication of the steel tower has fallen 15 months behind schedule due to the complexity of the design and fabrication. [Tower segments 1 through 4 are in various](#)



Crossbeam 15 in Bay 1

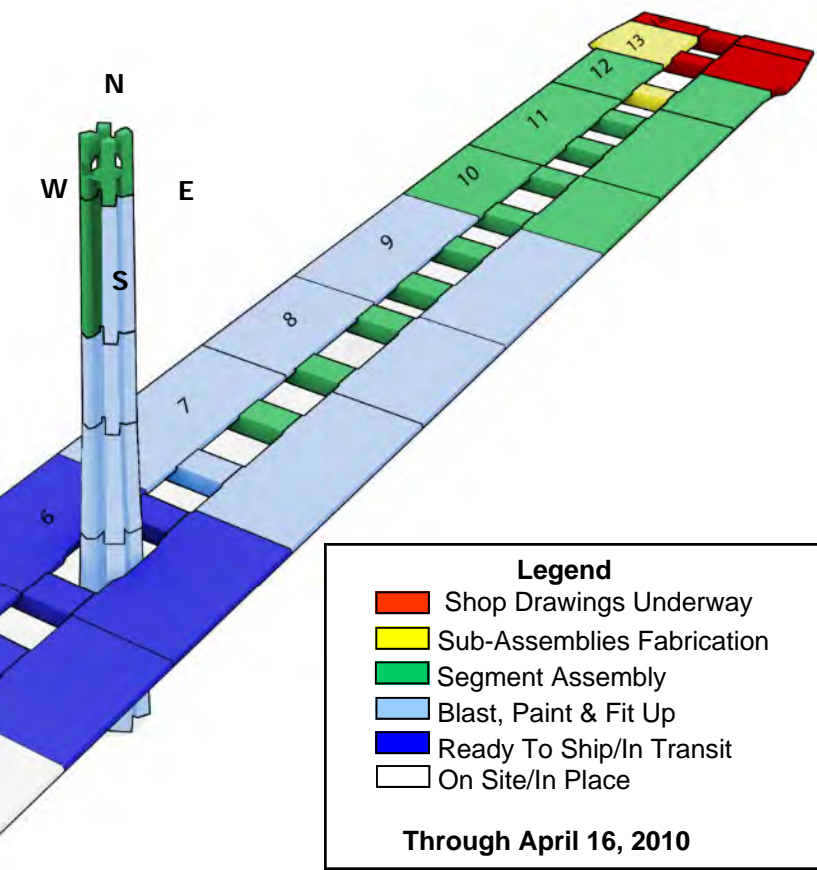


[stages of fabrication. The first tower segments are expected to arrive mid-2010.](#)



Fabrication Progress Diagram

Through April 2010



SAS Roadway Boxes 5 and 6 Being Prepared for Shipment



SAS Preassembly of Base Shear Plate



SAS Crossbeam Fabrication

TOLL BRIDGE SEISMIC RETROFIT PROGRAM

Self-Anchored Suspension (SAS) Superstructure Fabrication Activities (cont.)

Cables and Suspenders

One continuous main cable will be used to support the roadway deck of the SAS bridge. Anchored into the eastern end of the bridge, the main cable will start on the east end of the box girder, go over the main tower at T1, loop around the western end of the roadway decks at Pier W2, and then go back over the main tower to the western end of the box girder. The main cable will be made up of bundles of individual wire strands. Supporting the roadway decks to the main cable will be a number of smaller suspender cables. The main cable will be fabricated in China and the suspender cables in Missouri, USA.

Status: Initial trial testing of the main cable strands was performed in September 2009. The first half of the cable shipment arrived on site in January 2010 and the second half is expected in mid-2010.



SAS Masking of Cable Bands Prior to Paint



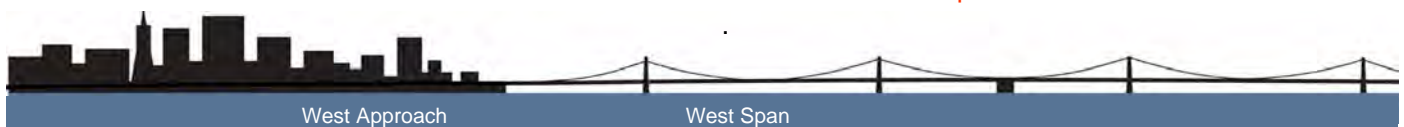
SAS East Saddle in Fabrication

Saddles, Bearings, Hinges, and Other Bridge Components

The mounts on which the main cable and suspender ropes will sit are made from solid steel castings. Castings for the main cable saddles are being made by Japan Steel Works, while the cable bands and brackets are being made by Goodwin Steel in the United Kingdom.

The bridge bearings and hinges that support, connect, and transfer loads from the self-anchored suspension (SAS) span to the adjoining sections of the new east span are being fabricated in a number of locations. Work on the bearings is being performed in Pennsylvania, USA and Hochang, South Korea, while hinge pipe beams are being fabricated in Oregon, USA.

Status: The cable saddles and hinges at the W2 cap beam and YBITS are under fabrication. The hinges in between the Skyway and Oakland Touchdown have been installed. The west deviation saddles are expected to arrive on site in April 2010.



TOLL BRIDGE SEISMIC RETROFIT PROGRAM

Self-Anchored Suspension (SAS) Superstructure Field Activities



Shear-Leg Barge Crane Lifting Roadway Box Lift 1 East

Temporary Support Structures

To erect the roadway decks and tower of the bridge, temporary support structures will first be put in place. Almost a bridge in itself, the temporary support structures will stretch from the end of the completed Skyway back to Yerba Buena Island. For the tower, a strand jack system is being built into the tower's temporary frame to elevate the upper sections of the tower into place. These temporary supports are being fabricated in the Bay Area, as well as in Oregon and in China at ZPMC.

Status: Temporary support structures are now mostly complete with the exception of the westbound centerpiece to allow access for the erection of the tower.

Cap Beams

Construction of the massive steel-reinforced concrete cap beams that link the columns at piers W2 and E2 was left to the SAS superstructure contractor and represents the only concrete portions of work on that contract. The east and west ends of the SAS roadway will rest on the cap beams and the main cable will wrap around Pier W2, while anchoring into the east end of the SAS deck sections near E2.

Status: Completed March 2009

Shear-Leg Barge Crane

The massive shear-leg barge crane that is helping to build the SAS superstructure arrived in the San Francisco Bay on March 12, 2009 after a trans-Pacific voyage.

The crane and barge are separate units operating as a single entity dubbed the "Left Coast Lifter." The 400-by-100-foot barge is a U.S. flagged vessel that was custom built in Portland, Oregon by U.S. Barge, LLC and outfitted with the crane by Shanghai Zhenhua Heavy Industry Co. Ltd. (ZPMC) at a facility near Shanghai, China. The crane's boom weighs 992 tons and is 328 feet long. The crane can lift up to 1,873 tons, including the deck and tower sections for the SAS.

Status: The shear-leg crane arrived at the jobsite March 2009. The crane has off-loaded all temporary structures and 8 SAS roadway boxes into place.



SAS W2 Cap Beam



TOLL BRIDGE SEISMIC RETROFIT PROGRAM

Self-Anchored Suspension (SAS) Superstructure Installation Activities

Upon arrival in Oakland, the steel roadway and tower sections are off-loaded directly from the transport ship onto barges to await installation atop the temporary support structures. The steel roadway sections will be installed from west to east. Due to the shallow waters near Yerba Buena Island, the eastbound lanes on the south side of the new bridge will be installed first, then to be followed by the westbound lanes. In total, there are 28 roadway sections (14 in each direction) that range from 560 to 1660 tons and from 80 to 230 feet long.

The tower comprises 4 legs, each made up of four tower box lifts that make up the majority of the height of the tower. To the tower boxes are added the tower grillage, and finally the tower head.

Status: The first four east and west roadway sections arrived in the Bay Area in late January 2010. Work is now ongoing to weld the segments together to form a continuous roadway. **Four eastbound and westbound sections are in place and three crossbeams have been installed. Four additional roadway boxes, 5 east, 5 west, 6 east and 6 west and three crossbeams, 4, 5 and 6 arrived at Pier 7 on April 18 and have been offloaded onto barges (see additional diagram on page 24 and 25).**





SAS Roadway Box Placement



SAS Roadway Box Placement

TOLL BRIDGE SEISMIC RETROFIT PROGRAM

San Francisco-Oakland Bay Bridge East Span Replacement Project Skyway

The Skyway, which comprises much of the new East Span, will drastically change the appearance of the Bay Bridge. Replacing the gray steel that currently cages drivers, a graceful, elevated roadway supported by piers will provide sweeping views of the bay.

E Skyway Contract

Contractor: Kiewit/FCI/Manson, Joint Venture

Approved Capital Outlay Budget: \$1,254.1 M

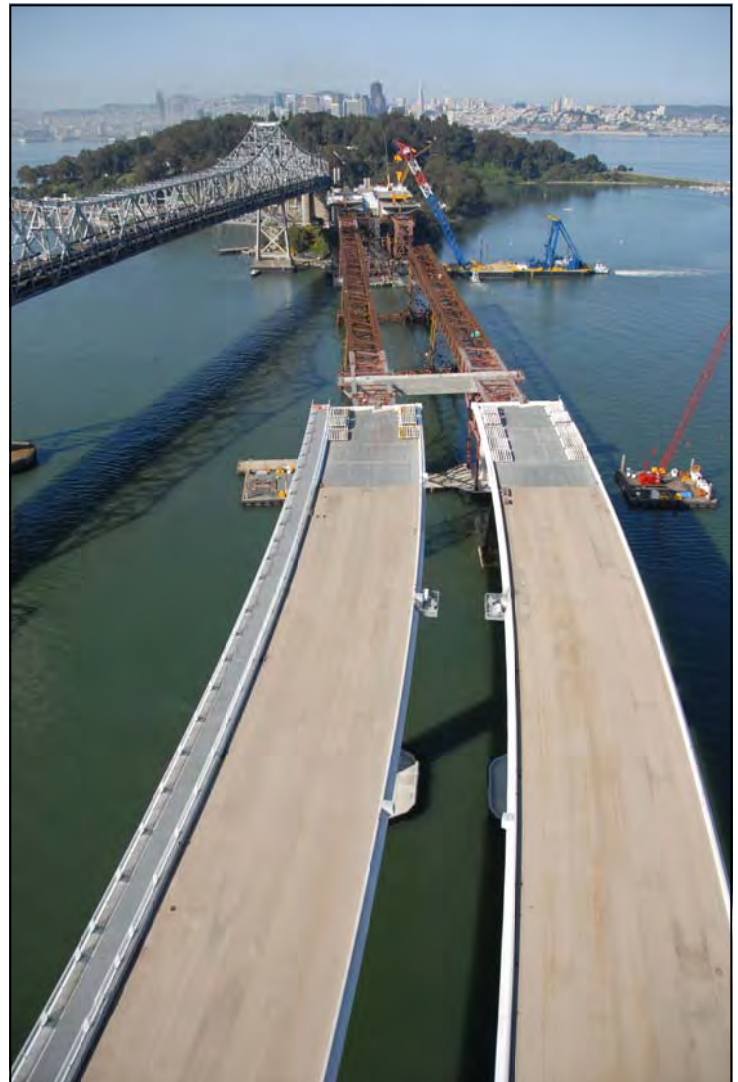
Status: Completed March 2008

Extending for more than a mile across Oakland mudflats, the Skyway is the longest section of the East Span. It sits between the new Self-Anchored Suspension (SAS) span and the Oakland Touchdown. In addition to incorporating the latest seismic-safety technology, the side-by-side roadway decks of the Skyway feature shoulders and lane widths built to modern standards.

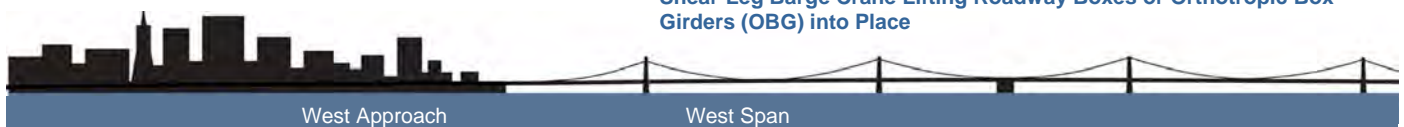
The Skyway's decks are composed of 452 pre-cast concrete segments (standing three stories high), containing approximately 200 million pounds of structural steel, 120 million pounds of reinforcing steel, 200 thousand linear feet of piling and about 450 thousand cubic yards of concrete. These are the largest segments of their kind ever cast and were lifted into place by custom-made winches.

The Skyway marine foundation consists of 160 hollow steel pipe piles measuring eight feet in diameter and dispersed among 14 sets of piers. The 365-ton piles were driven more than 300 feet into the deep bay mud. The new East Span piles were battered or driven in at an angle, rather than vertically, to obtain maximum strength and resistance.

Designed specifically to move during a major earthquake, the Skyway features several state-of-the-art seismic safety innovations, including 60-foot-long hinge pipe beams. These beams will allow deck segments on the Skyway to move, enabling the deck to withstand greater motion and to absorb more earthquake energy.



Overview of the Skyway and the Temporary Support Structures with the Shear-Leg Barge Crane Lifting Roadway Boxes or Orthotropic Box Girders (OBG) into Place



TOLL BRIDGE SEISMIC RETROFIT PROGRAM

San Francisco-Oakland Bay Bridge East Span Replacement Project Oakland Touchdown

When completed, the Oakland Touchdown (OTD) structures will connect Interstate 80 in Oakland to the new side-by-side decks of the new East Span. For westbound drivers, the OTD will be their introduction to the graceful new East Span. For eastbound drivers from San Francisco, this section of the bridge will carry them from the Skyway to the East Bay, offering unobstructed views of the Oakland hills.

The OTD will be constructed through two contracts. The first contract will build the new westbound lanes, as well as part of the eastbound lanes. The second contract to complete the eastbound lanes cannot fully begin until westbound traffic is shifted onto the new bridge. This enables a portion of the upper deck of the existing bridge to be demolished allowing for a smooth transition for the new eastbound lanes in Oakland.

F Oakland Touchdown #1 Contract

Contractor: MCM Construction, Inc.

Current Capital Outlay Forecast: \$210.4 M

Status: 95% Complete as of March 2010

The OTD #1 contract constructs the entire 1,000-foot-long westbound approach from the toll plaza to the Skyway. When completed, the westbound approach structure will provide direct access to the westbound Skyway. In the eastbound direction, the contract will construct a portion of the eastbound structure and all of the eastbound foundations that are not in conflict with the existing bridge.

Status: On the OTD #1 westbound structure, the contractor has completed all work and is forecasting to complete all eastbound **structure work in June 2010**. The contractor, MCM, has removed the trestles.

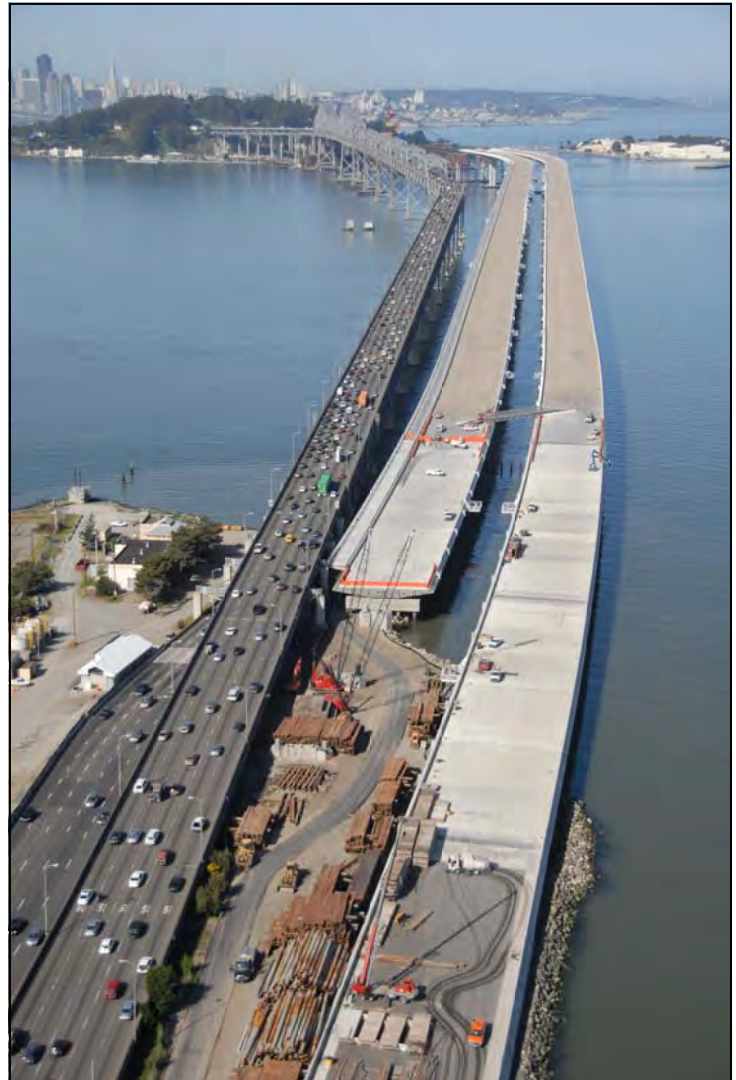
G Oakland Touchdown #2 Contract

Contractor: TBD

Current Capital Outlay Forecast: \$57.0 M

Status: In design

The OTD #2 contract will complete the eastbound approach structure from the end of the Skyway to Oakland. This work is critical to the eastbound opening of the new bridge, but cannot be completed until westbound traffic has been shifted off the existing upper deck to the new SAS bridge.



Overview of Oakland Touchdown #1 Project Status



TOLL BRIDGE SEISMIC RETROFIT PROGRAM

San Francisco-Oakland Bay Bridge East Span Replacement Project Other Contracts

A number of contracts needed to relocate utilities, clear areas of archeological artifacts, and prepare areas for future work have already been completed. The last major contract will be the eventual demolition and removal of the existing bridge, which by that time will have served the Bay Area for nearly 80 years. Following is a status of some the other East Span contracts.



Archeological Investigations

East Span Interim Seismic Retrofit

Contractors: 1) California Engineering Contractors
2) Balfour Beatty

Approved Capital Outlay Budget: \$30.8 M

Status: Completed October 2000

After the 1989 Loma Prieta Earthquake, and before the final retrofit strategy was determined for the East Span, Caltrans completed an interim retrofit of the existing bridge to prevent a catastrophic collapse of the bridge should a similar earthquake occur before the East Span was completely replaced. The interim retrofit was performed under two separate contracts that lengthened pier seats, added some structural members, and strengthened areas of the bridge so they would be more resilient during an earthquake.



Existing East Span of Bay Bridge

Stormwater Treatment Measures

Contractor: Diablo Construction, Inc.

Approved Capital Outlay Budget: \$18.3 M

Status: Completed December 2008

The Stormwater Treatment Measures contract implemented a number of best practices for the management and treatment of stormwater runoff. Focusing on the areas around and approaching the toll plaza, the contract added new drainage and built new bio-retention swales and other related constructs.



Stormwater Retention Basin



Yerba Buena Island Substation

Contractor: West Bay Builders

Approved Capital Outlay Budget: \$11.6 M

Status: Completed May 2005

This contract relocated an electrical substation just east of the Yerba Buena Island Tunnel in preparation for the new East Span.

Pile Installation Demonstration

Contractor: Manson and Dutra, Joint Venture

Approved Capital Outlay Budget: \$9.2 M

Status: Completed December 2000

While large-diameter battered piles are common in offshore drilling, the new East Span is one of the first bridges to use large-diameter battered piles in its foundations. To minimize project risks and build industry knowledge, a pile installation demonstration project was initiated to prove the efficacy of the proposed technology and methodology. The demonstration was highly successful and helped result in zero contract change orders or claims for pile driving on the project.

H Existing Bridge Demolition

Contractor: TBD

Approved Capital Outlay Budget: \$239.1 M

Status: In Design

Design work on the contract will start in earnest as the opening of the new bridge to traffic approaches.



New YBI Electrical Substation

I Electrical Cable Relocation

Contractor: Manson Construction

Approved Capital Outlay Budget: \$9.6 M

Status: Completed January 2008

A submerged cable from Oakland that is close to where the new bridge will touch down supplies electrical power to Treasure Island. To avoid any possible damage to the cable during construction, two new replacement cables were run from Oakland to Treasure Island. The extra cable was funded by the Treasure Island Development Authority and its future development plans.

Quarterly Environmental Compliance Highlights

Overall environmental compliance for the SFOBB East Span project has been a success. All weekly, monthly and annual compliance reports to resource agencies have been delivered on time. There are no comments from receiving agencies. The tasks for the current quarters are focused on mitigation monitoring. Key successes in this quarter are as follows:

- Bird monitoring was conducted weekly in the active construction area. Monitors did not observe any indication that birds were disturbed due to the East Span construction activities.
- Peregrine falcon monitoring for the 2009/2010 nesting season continued through the quarter. There is an active nest on the north leg of Pier E2 of the existing bridge. Eggs were most likely laid during the first week of March and hatching is expected in early April 2010.
- Weekly Monitoring of Canada geese along the I-80 roadway adjacent to the Emeryville Crescent for the year began on March 4, 2010 and will continue through August 2010.
- San Francisco-Oakland Bay Bridge (SFOBB) environmental compliance and stormwater pollution prevention plan (SWPPP) inspections were conducted weekly at all active project sites. The project team continues to work closely with contractors to ensure compliance with environmental permits and regulations and improve SWPPP and best management practices.
- On January 5, 2010 Caltrans submitted a request for Amendment No. 27 to San Francisco Bay Conservation and Development Commission (BCDC) Permit No. 8-01. The amendment would grant a time extension for the guarantee of approximately 4.5 acres of public access area at the San Francisco-Oakland Bay Bridge. The amendment request also proposes the construction of a bus turn-around in BCDC's 100-foot shoreline band at the proposed Gateway Park.
- On January 28th, Caltrans participated in the groundbreaking event to begin the demolition for the Skaggs Island Restoration Project. This project was primarily funded by Caltrans, which provided approximately \$9 million. The project will demolish the United States Navy (US Navy) Naval Security Group Activity facility at Skaggs Island, remove associated contaminants and restore approximately 3,300 acres of land to tidal action. Upon completion of demolition activities, these lands will be transferred from the US Navy to the United States Fish and Wildlife Service (USFWS) to become a part of the San Pablo Bay National Wildlife Refuge, which will increase the refuge's current 13,190 acres of protected lands by 25 percent.
- On March 3, 2010, BCDC issued Amendment No. 26 to BCDC Permit No. 8-01 to allow the California Department of Transportation to transfer the remaining funds and responsibility for off-site eelgrass restoration to the National Oceanic and Atmospheric Administration National Marine Fisheries Service. Caltrans staff has initiated the cooperative agreement process to facilitate the transfer of these funds, which total approximately \$1.5 million plus approximately \$300,000 in interest.
- On March 8, 2010 Caltrans submitted a request for Amendment No. 28 to BCDC Permit No. 8-01. The amendment would extend the deadline for removal of the temporary crane runway platform used for access during the Labor Day weekend 2009 Roll-Out/Roll-In operation.
- On March 29th, a qualitative assessment of the vegetation at the Emeryville Crescent Habitat Mitigation Site was conducted. A more detailed, quantitative assessment will be conducted in July.



US Navy Buildings to Be Removed to Restore Land to Tidal Action



Goose Fence



San Francisco Oakland Bay Bridge Eelgrass

SEISMIC RETROFIT OF DUMBARTON AND ANTIOCH BRIDGES

Antioch Bridge Seismic Retrofit Project

Contractor: California Engineering Contractors, Inc.

Approved Capital Outlay Budget: \$156 M

Status: Bid Open

Serving the Delta region of the Bay Area, the Antioch Bridge takes State Route 160 traffic over the San Joaquin River, linking eastern Contra Costa County with Sacramento County. The current 1.8 mile-long steel plate girder bridge was opened in 1978 with one lane in each direction. The current retrofit strategy for the bridge includes relatively minor modifications to the approach structure on Sherman Island, the addition of isolation bearings and strengthening of the columns and hinge retrofits.

Status: Bids for the retrofit contract were opened on March 10, 2010. The contract was awarded to California Engineering Contractors, Inc. on April 22, 2010. The awarded contract was significantly less than the engineer's estimate for the work and has resulted in a significant cost forecast reduction. The TBPOC is recommending that the

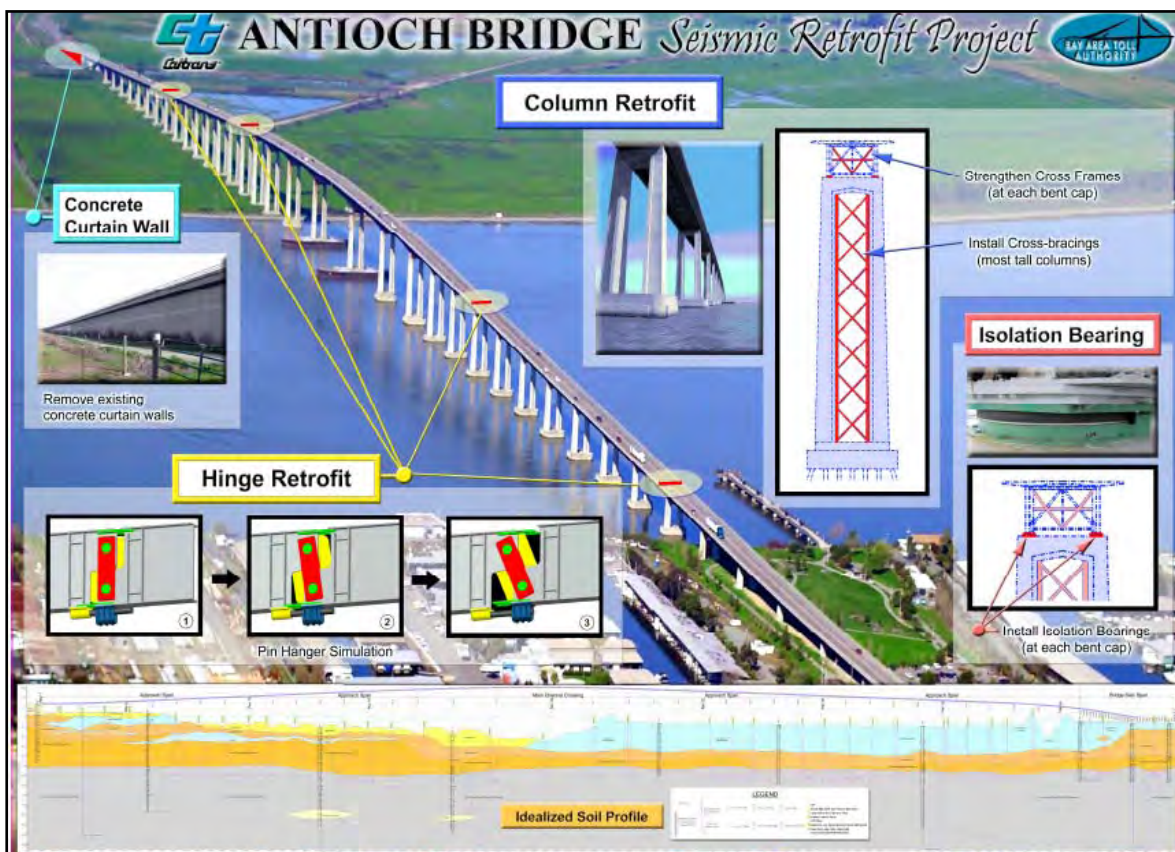


Antioch Bridge

budget for the project be reduced to account for the low bid. The original budget for the project was \$267 million.

With the low bid, the TBPOC is forecasting a need of only \$130 million. The retrofit is forecast to be

Graph to be updated in next draft



Seismic Retrofit Strategy Summary for Antioch Bridge

TOLL BRIDGE SEISMIC RETROFIT PROGRAM

Other Completed Projects

In the 1990s, the State Legislature identified seven of the nine state-owned toll bridges for seismic retrofit. In addition to the San Francisco-Oakland Bay Bridge, these included the Benicia-Martinez, Carquinez, Richmond-San Rafael and San Mateo-Hayward bridges in the Bay Area, and the Vincent Thomas and Coronado bridges in Southern California. Other than the East Span of the Bay Bridge, the retrofits of all of the bridges have been completed as planned.

San Mateo-Hayward Bridge Seismic Retrofit Project

Project Status: Completed 2000

The San Mateo-Hayward Bridge seismic retrofit project focused on strengthening the high-rise portion of the span. The foundations of the bridge were significantly upgraded with additional piles.



High-Rise Section of San Mateo-Hayward Bridge

1958 Carquinez Bridge Seismic Retrofit Project

Project Status: Completed 2002

The eastbound 1958 Carquinez Bridge was retrofitted in 2002 with additional reinforcement of the cantilever thru-truss structure.

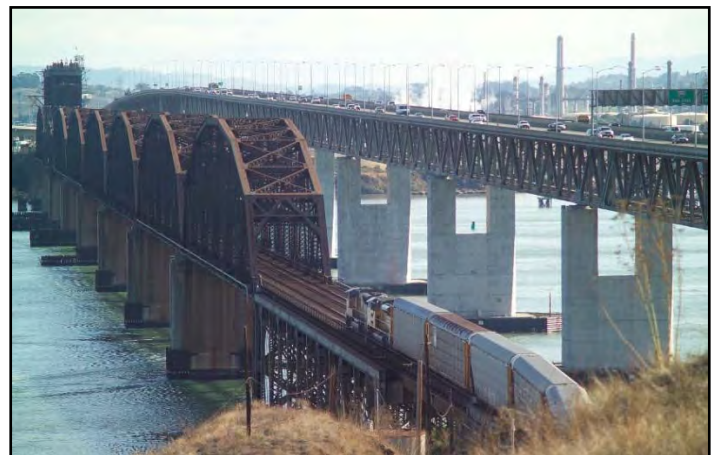


1958 Carquinez Bridge (foreground) with the 1927 Span (middle) under Demolition and the New Alfred Zampa Memorial Bridge (background)

1962 Benicia-Martinez Bridge Seismic Retrofit Project

Project Status: Completed 2003

The southbound 1962 Benicia-Martinez Bridge was retrofitted to "Lifeline" status with the strengthening of the foundations and columns and the addition of seismic bearings that allow the bridge to move during a major seismic event. The Lifeline status means the bridge is designed to sustain minor to moderate damage after an event and to reopen quickly to emergency response traffic.



1962 Benicia-Martinez Bridge (right)

Richmond-San Rafael Bridge Seismic Retrofit Project

Project Status: Completed 2005

The Richmond-San Rafael Bridge was retrofitted to a “No Collapse” classification to avoid catastrophic failure during a major seismic event. The foundations, columns, and truss of the bridge were strengthened, and the entire low-rise approach viaduct from Marin County was replaced.

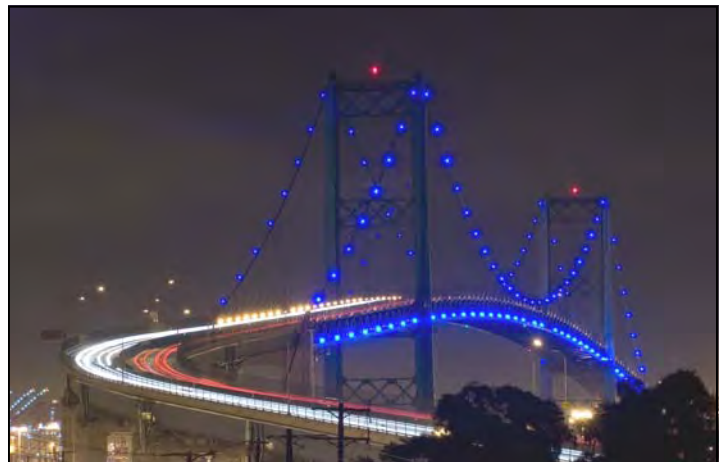


Richmond-San Rafael Bridge

Los Angeles-Vincent Thomas Bridge Seismic Retrofit Project

Project Status: Completed 2000

The Vincent Thomas Bridge is a 1,500-foot long suspension bridge crossing the Los Angeles Harbor in Los Angeles that links San Pedro with Terminal Island. The bridge was one of two state-owned toll bridges in Southern California (the other being the San Diego-Coronado Bridge). Opened in 1963, the bridge was seismically retrofitted as part of the TBSRP in 2000.



Los Angeles-Vincent Thomas Bridge

San Diego-Coronado Bridge Seismic Retrofit Project

Project Status: Completed 2002

The San Diego-Coronado Bridge crosses over San Diego Bay and links the cities of San Diego and Coronado. Opened in 1969, the 2.1 mile long bridge was seismically retrofitted as part of the Toll Bridge Seismic Retrofit Project in 2002.



San Diego-Coronado Bridge

TOLL BRIDGE SEISMIC RETROFIT PROGRAM

Risk Management Program Update

POTENTIAL DRAW ON PROGRAM RESERVE (PROGRAM CONTINGENCY)

Assembly Bill (AB) 144 states that Caltrans must “regularly reassess its reserves for potential claims and unknown risks, incorporating information related to risks identified and quantified through its risk assessment processes.” AB 144 set a \$900 million Program Reserve (also referred to as the Program Contingency). The Program Contingency is currently at \$948.3 million, according to the TBPOC Approved Budget.

The risk management process calculates the potential draw on Program Contingency each quarter based on the total of all risks and the contingencies remaining from the contracts.

Each contract in design has an assigned contingency allowance. A contract in construction has a remaining contingency, which is the difference between its budget and the sum of bid items, state-furnished materials, contract change orders and remaining supplemental work. Capital outlay support has no identified contingency allowance. The total of the contingencies is the amount that is available to cover the risks of all contracts, program-level risks (the risks not assigned to a particular contract), and capital outlay support risks. The amount by which the sum of all risks exceeds the total of all contingencies represents a potential draw on the Program Contingency (Reserve).

The risk management process calculates the potential draw on program contingency each quarter, and compares it to the current balance in the Program Contingency. The first quarter 2010 potential draw curve, excluding any potential out-of-scope program risks, is shown in Figure 1.

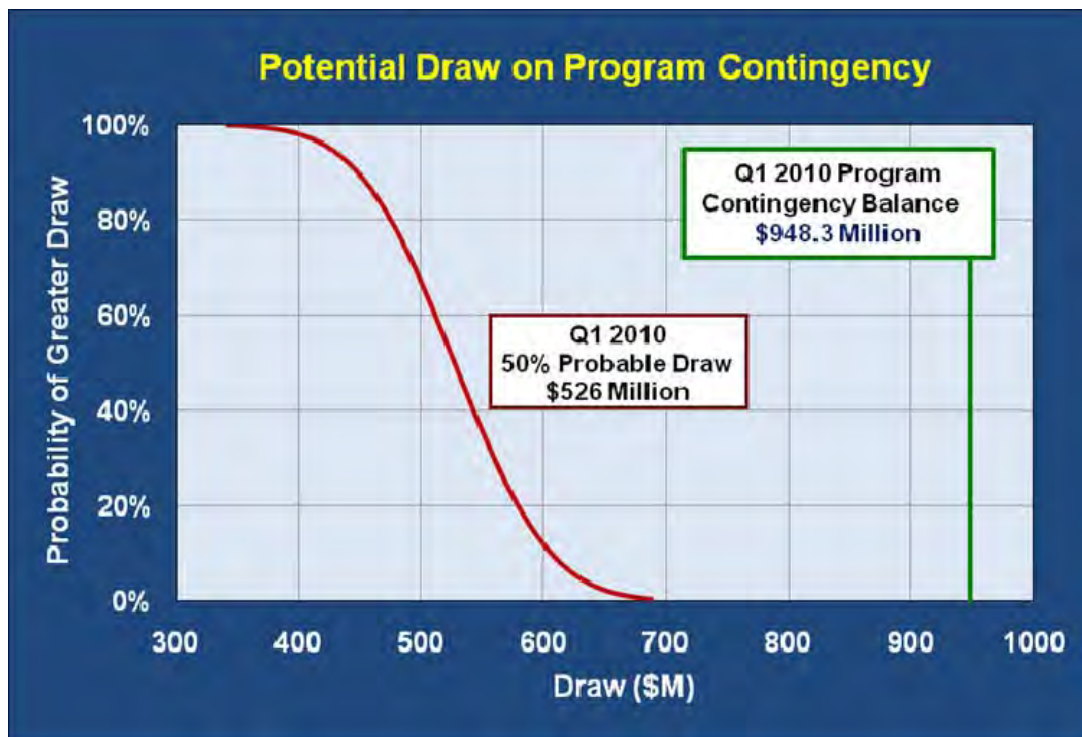


FIGURE 1 – POTENTIAL DRAW ON PROGRAM CONTINGENCY

Total risk did not increase from the previous quarter because the addition of the risks of the Antioch and Dumbarton Retrofit projects was offset by a reduction in risks of the other contracts.

Note: The Program Contingency funds could be used for other beneficial purposes than to cover risks. The potential draw chart should not be construed as a forecast of the future balance of Program Contingency funds.

As of the end of the first quarter 2010, the 50 percent probable draw on Program Contingency is \$526 million. The potential draw ranges from about \$300 million to \$700 million.

Program Contingency increased by \$190 million transferred from the Antioch and Dumbarton contracts. The current Program Contingency balance is sufficient to cover the cost of identified risks. Risk mitigation actions are continuously developed and implemented to reduce the potential draw on the Program Contingency.

RISK MANAGEMENT DEVELOPMENTS

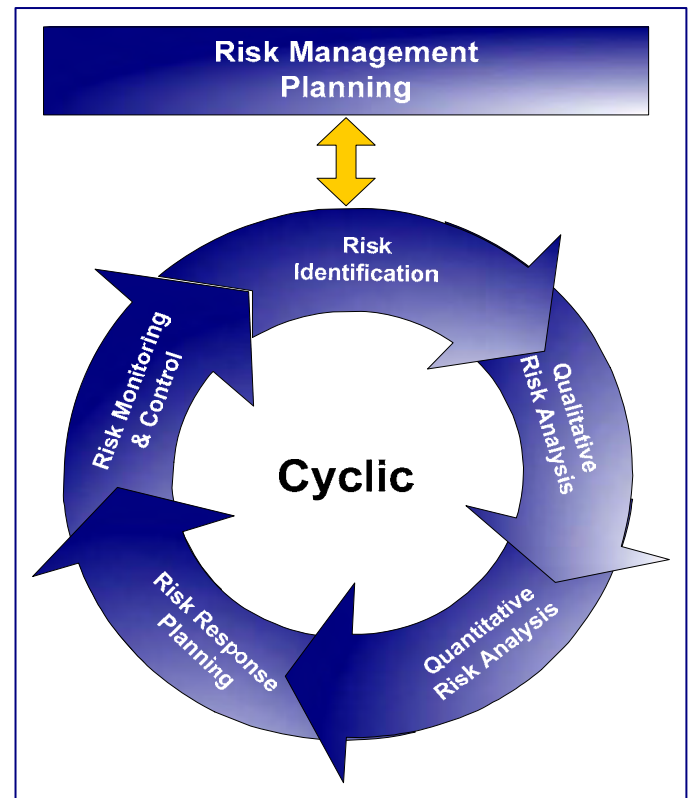
SAS Contract

The SAS February 2010 Update Schedule indicates that the project as a whole is potentially about 11 months behind schedule from the revised contract dates. The TBPOC and Caltrans, in cooperation with the SAS contractor, are continuously assessing and implementing measures to recover potential lost time in the schedule.

The TBPOC-approved incentive and disincentive provisions are proving successful in expediting approved working drawings delivery, as well as expediting the roadway boxes or Orthotropic Box Girder (OBG) and Tower steel delivery. Working drawings for the east end of roadway box Lifts 12 through 14 are progressing well, but remain a critical operation for the project. The incentives and the assignment of key personnel by Caltrans to this work have facilitated getting this challenging issue under control.

The TBPOC-approved incentive and disincentive provisions associated with the first and third permanent steel shipments have been successful. The first shipment arrived in mid-January 2010. The next shipment departed March 29, 2010 and arrived in the Bay Area on March 18.

Caltrans and the SAS contractor continue to work together to develop and implement a joint planning schedule to meet the TBPOC's goal to achieve seismic safety in 2013. Discussions focus on three key areas:



streamlining East End fabrication, accelerating cable erection through load transfer and opening the bridge to traffic before all contracted work is completed.

Team China continues to work on mitigating deck and tower fabrication challenges reported in the SAS contractor's latest schedule update. Meetings were held in mid-March to identify specific ways to mitigate the East End fabrication schedule. Several identified and evaluated concepts are being implemented and some others are expected to follow.

Corridor Schedule

The Corridor Schedule Team (CST) continues to assess the SAS and other contract schedules. The CST developed an intermediate-level critical path method schedule for the corridor to evaluate schedule risks. This corridor schedule is a summarization of the contract schedules submitted by the various contractors, and schedules developed by Caltrans for the contracts in design.

The CST and Risk Management Team incorporated several recovery opportunities and other assumptions into the Corridor Schedule. Most of the recovery opportunities are in the construction phase of the SAS

TOLL BRIDGE SEISMIC RETROFIT PROGRAM

Risk Management Program Update (cont.)

contract and allow for re-sequencing certain work activities to better reflect concurrent work and redefine phase completion requirements. An important aspect of this schedule, and of all schedules for large projects, is that there may be multiple critical paths on a project. Focusing on the path that is the most critical, while important, may divert attention from other near-critical paths. The CST continues to assess risk mitigation strategies and opportunities accordingly.

Antioch and Dumbarton Retrofit Contracts

The Antioch and Dumbarton Bridge Retrofit projects were added to the Toll Bridge Seismic Retrofit Program on January 1, 2010. The Risk Management Team has been quantifying risks of these projects since they were at 35% design completion over two years ago. They are included in the risk management results for this quarter.

The addition of the risks of these two projects was offset by a reduction in risks for the other contracts. Funds from these projects transferred to the TBSRP increased the Program Contingency balance this quarter.

RISK MANAGEMENT LOOK AHEAD

SAS Contract

Forecasting shipment dates continues to be challenging. Although the first two roadway boxes (Orthotropic Box Girders OBG) shipments have departed the fabrication facility, subsequent shipment dates still have considerable uncertainty. The uncertainty should reduce with each shipment as the teams apply “lessons learned” to managing the fabrication processes.

The SAS contractor is contemplating rearranging roadway and tower boxes among shipments, and possibly adding two shipments to deliver the bridge components to the jobsite as soon as possible.

Project management has engaged the contractor to jointly develop a schedule for the remaining portion of the project. The joint schedule will identify and address

specific actions that can be taken to recover schedule delays. Such a schedule can be used as a planning tool to identify risks and their potential impacts to bridge opening. For example, Caltrans is working with the contractor to identify ways of rearranging the roadway boxes and tower lifts among shipments to help mitigate project delays.

The TBPOC and Caltrans, in cooperation with the SAS contractor, will continue to assess implementation of incentive and disincentive provisions to expedite project completion.

Corridor Schedule

It is important to remember that the proposed dates for achieving seismic safety are objectives, not certainties. A cost estimate is not a certainty and therefore needs a contingency allowance to determine a budget that has an acceptable probability of being adequate. Similarly, a schedule is an estimate of time required and should have a time contingency to set a completion target date that has an acceptable probability of being realized. In each case, the contingency is intended to cover the risks.

Efforts are underway by the TBPOC and Caltrans to accelerate the remaining work to achieve seismic safety as early as possible. Compressing or accelerating the schedule removes most, if not all, of the time contingency. If any critical activity (one on the longest path) requires additional time, the accelerated target dates will not be realized without taking additional mitigating actions. East End fabrication and erection, cable installation and load transfer are on the longest path. All of these activities are complex and challenging – to squeeze the time available also increases the probability of something not going according to plan.



SAS Westbound Temporary Structure and Historical Torpedo Room below

TOLL BRIDGE SEISMIC RETROFIT PROGRAM

Program Funding Status

AB 144 established a funding level of \$8.685 billion for the TBSRP. The bill specifies program funding sources as shown in *Table 1-Program Budget*.

Table 1—Program Budget
as of December 31, 2009 (\$ Millions)

	Budgeted	Funding Available & Contributions
Financing		
Seismic Surcharge Revenue AB 1171	2,282.0	2,282.0
Seismic Surcharge Revenue AB 144	2,150.0	2,150.0
BATA Consolidation	820.0	820.0
Subtotal - Financing	5,252.0	5,252.0
Contributions		
Proposition 192	790.0	789.0
San Diego Coronado Toll Bridge Revenue Fund	33.0	33.0
Vincent Thomas Bridge	15.0	6.9
State Highway Account ⁽¹⁾⁽²⁾	745.0	745.0
Public Transportation Account ⁽¹⁾⁽³⁾	130.0	130.0
ITIP/SHOPP/Federal Contingency	448.0	100.0
Federal Highway Bridge Replacement and Rehabilitation (HBRR)	642.0	642.0
SHA - East Span Demolition	300.0	-
SHA - "Efficiency Savings" ⁽⁴⁾	130.0	10.0
Redirect Spillover	125.0	125.0
Motor Vehicle Account	75.0	75.0
Subtotal - Contributions	3,433.0	2,655.9
Total Funding	8,685.0	7,907.9
Encumbered to Date		7,168.1
Remaining Unallocated		739.8
Expenditures:		
Capital Outlay		4,846.1
State Operations		1,289.9
Total Expenditures		6,136.0
Encumbrances:		
Capital Outlay		1,024.3
State Operations		7.7
Total Encumbrances		1,032.0
Total Expenditures and Encumbrances		7,168.0
<p>⁽¹⁾ The California Transportation Commission adopted a new schedule and changed the PTA/SHA split on December 15, 2005.</p> <p>⁽²⁾ To date, \$645 million has been transferred from the SHA to the TBSRP, including the full \$290 million transfer scheduled by the CTC to occur in 2005-06. An additional \$100 million has been expended directly from the account.</p> <p>⁽³⁾ To date, \$130 million has been transferred from the PTA to the TBSRP, including the full amount of all transfers scheduled by the CTC.</p> <p>⁽⁴⁾ To date, \$10 million has been transferred from the SHA to the TBSRP, representing the commitment of "Efficiency Savings" identified under AB 144. Approximately \$120 million remains to be distributed as scheduled by the CTC.</p>		
Notes:		
Program budget includes \$900 million program contingency.		

Summary of the Toll Bridge Oversight Committee (TBPOC) Expenses

Pursuant to Streets and Highways Code Section 30952.1 (d), expenses incurred by Caltrans, BATA, and the California Transportation Commission (CTC) for costs directly related to the duties associated with the TBPOC are to be reimbursed by toll revenues. *Table 3-Toll Bridge Program Oversight Committee Estimated Expenses: July 1, 2005 through December 31, 2009* shows expenses through December 31, 2009 for TBPOC functioning, support, and monthly and quarterly reporting.

Table 2—CTC Toll Bridge Seismic Retrofit Program Contributions Adopted December 2005
Schedule of Contributions to the Toll Bridge Seismic Retrofit Program (\$ Millions)

Source	Description	2005-06 (Actual)	2006-07 (Actual)	2007-08 (Actual)	2008-09 (Actual)	2009-10 (Actual)	2010-11	2011-12	2012-13	2013-14	Total
AB 1171	SHA	290									290
	PTA	80	40								120
	Highway Bridge Replacement and Rehabilitation (HBRR)	100	100	100	42						342
	Contingency				1	99	100	100	148		448
AB 144	SHA*	2	8				53	50	17		130
	Motor Vehicle Account (MVA)	75									75
	Spillover		125								125
	SHA**									300	300
	Total	547	273	100	43	99	153	150	165	300	1830

* Caltrans Efficiency Savings

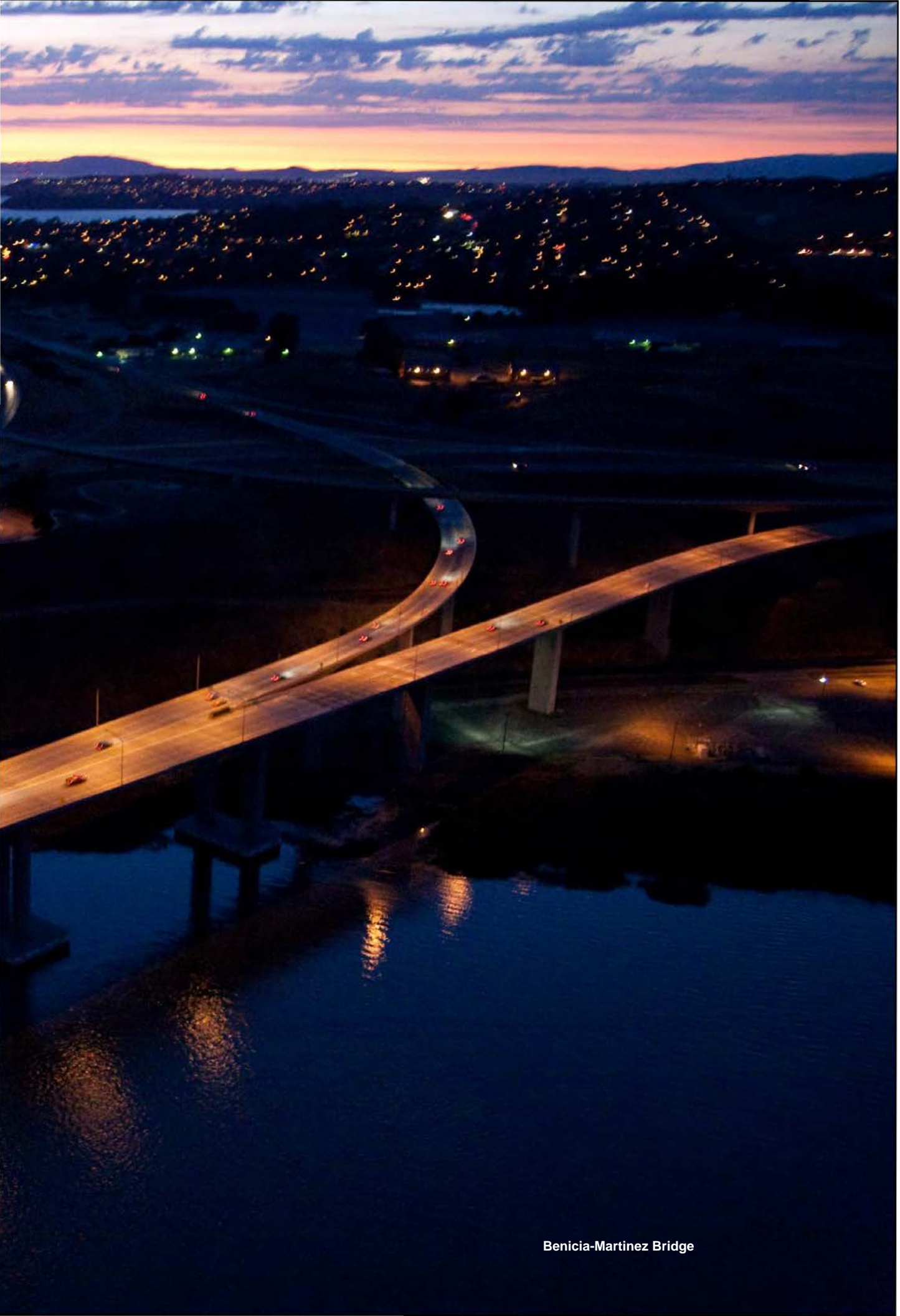
** SFOBB East Span Demolition Cost

Table 3—Toll Bridge Program Oversight Committee
Estimated Expenses: July 1, 2005 through December 31, 2009
(\$ Millions)

Agency/Program Activity	Expenses
BATA	0.8
Caltrans	1.8
CTC	1.2
Reporting	3.4
Total Program	7.2



Photo courtesy of Tom Paiva



Benicia-Martinez Bridge

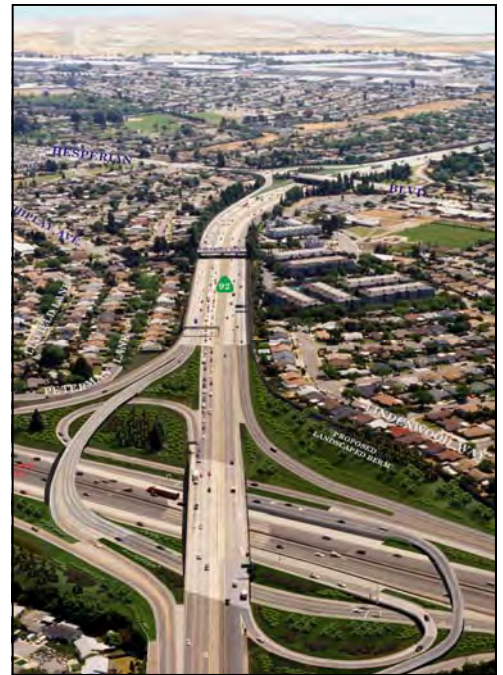
REGIONAL MEASURE 1 TOLL BRIDGE PROGRAM

REGIONAL MEASURE 1 PROGRAM

Interstate 880/State Route 92 Interchange Reconstruction Project

The Interstate 880/State Route 92 Interchange Reconstruction Project is the final project under the Regional Measure 1 Toll Bridge Program. Project completion fulfills a promise made to Bay Area voters in 1988 to deliver a slate of projects that would help expand bridge capacity, reduce congestion and improve safety on the bridges.

This corridor is consistently one of the Bay Area's most congested during the evening commute. This is due in part to the lane merging and weaving that is required by the existing cloverleaf interchange. The new interchange will feature direct freeway-to-freeway connector ramps that will increase traffic capacity and improve overall safety and traffic operations in the area. With the new direct-connector ramps, drivers coming off the San Mateo-Hayward Bridge can access Interstate 880 without having to compete with traffic headed onto east Route 92 from south Interstate 880 (see progress photos on pages 86 and 87).



Future Interstate 880/State Route 92 Interchange (as simulated) ,Looking West toward San Mateo.

Interstate 880/State Route 92 Interchange Reconstruction Contract

Contractor: Flatiron/Granite

Approved Capital Outlay Budget: \$155.0 M

Status: 67% Complete As Of March 2010



92/880 Pump Station Construction in Progress



Overview of Progress to Date

Stage 1 – Construct East Route 92 to North Interstate 880 Connector

The new east Route 92 to north Interstate 880 connector (ENCONN) is the most critical flyover structure for relieving congestion in the corridor. The ENCONN will be first used as a detour to allow for future stages of work, while keeping traffic flowing.

Status: ENCONN was completed and opened to detour traffic on May 16, 2009.

Stage 2 – Replace South Side of Route 92 Separation Structure

By detouring eastbound Route 92 traffic onto ENCONN, the existing separation structure that carries SR92 over I-880 can be replaced. The existing structure will be cut lengthwise, and then demolished and replaced separately. In this stage, the south side of the structure will be replaced, while west Route 92 and south-Interstate-880-to- east-Route-92 traffic will stay on the remaining structure.

Status: Work on the south side of the separation structure is complete. Final traffic switches to allow east and west traffic for SR92 will be completed April 22 & 23, 2010.

Stage 3 – Replace North Side of Route 92 Separation Structure

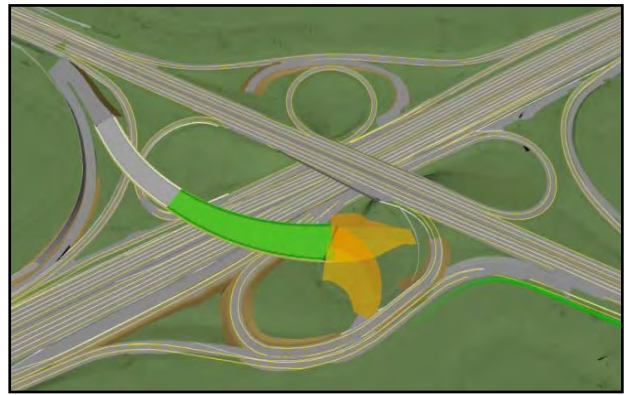
Upon completion of Stage 2, the existing north side of the separation structure will be demolished and replaced. Its traffic will then be shifted onto the newly reconstructed south side.

Status: The demolition of the existing westbound separation structure (north side) will begin April 26, 2010.

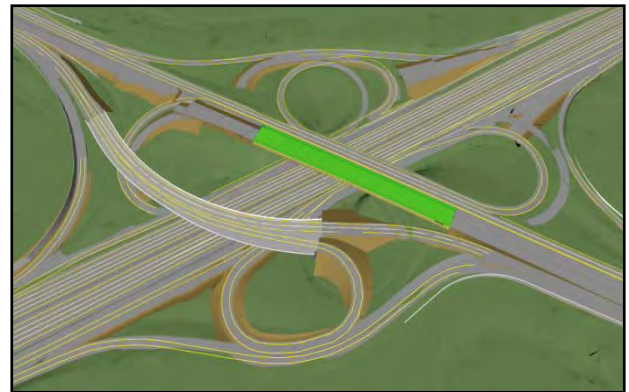
Stage 4 – Final Realignment and Other Work

Upon completion of the Route 92 separation structure, east Route 92 traffic can be shifted onto its permanent alignment from the new ENCONN and directly under the new separation structure. Along with the ENCONN and Route 92 separation structures, several soundwalls, a pedestrian overcrossing on I-880 at Eldridge Avenue and other ramps and structures will also be reconstructed as part of this project.

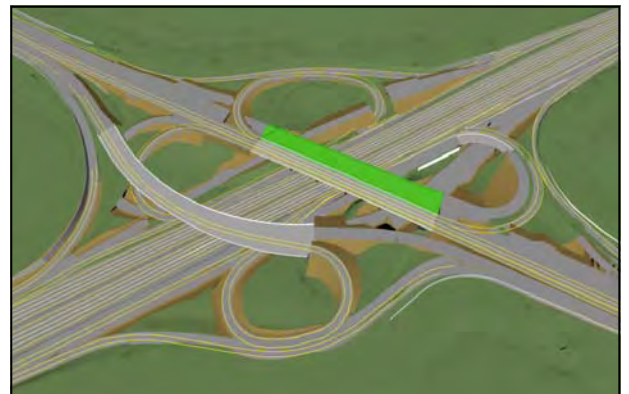
Status: Work continues on Retaining wall A in the northwest quadrant, (Stage 2) as well as on the Eldridge Avenue pedestrian overcrossing. The new pump station construction is ongoing and scheduled to be completed in July 2010. The Calaroga Bridge temporary bridge was completed January 15, 2010. The Calaroga left bridge is approximately 10 percent complete and is forecasted to complete in August 2010. Upon completion of the left bridge the right bridge will be constructed and is forecasted to be complete the first quarter of 2011.



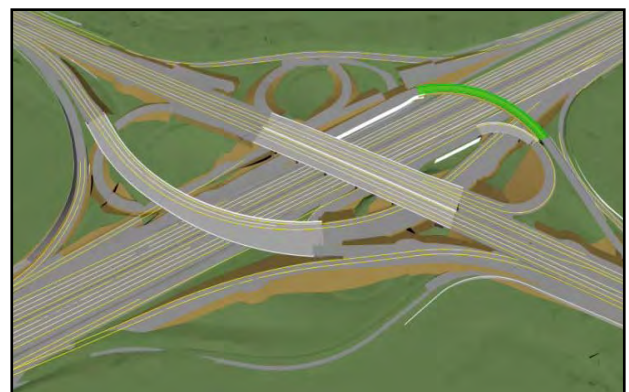
Stage 1 - Construct East Route 92 to North Interstate 880 Direct Connector



Stage 2 - Demolish and Replace South Side of Route 92 Separation Structure



Stage 3 - Demolish and Replace North Side of Route 92 Separation Structure



Stage 4 - Final Realignment and Other Work

REGIONAL MEASURE 1 PROGRAM

Other Completed Projects

San Mateo-Hayward Bridge-Widening Project

Project Status: Completed 2003

This project expanded the low-rise concrete trestle section of the San Mateo-Hayward Bridge to allow for three lanes in each direction to match the existing configuration of the high-rise steel section of the bridge.



Widening of the San Mateo-Hayward Bridge Trestle on Left

Richmond-San Rafael Bridge Rehabilitation Projects

Two major rehabilitation projects for the Richmond-San Rafael Bridge were funded and completed:

- (1) replacement of the western concrete approach trestle and ship-collision protection fender system; and
- (2) rehabilitation of deck joints and resurfacing of the bridge deck.

In 2005, along with the seismic retrofit of the bridge, the trestle and fender replacement work was completed as part of the same project. Under a separate contract in 2006, the bridge was resurfaced with a polyester concrete overlay along with the repair of numerous deck joints.



New Richmond-San Rafael Bridge West Approach Trestle under Construction

Richmond Parkway Construction Project

Project Status: Completed 2001

The final connections to the Richmond Parkway from Interstate 580 near the Richmond-San Rafael Bridge were completed in May 2001.

New Alfred Zampa Memorial (Carquinez) Bridge Project

The new western span of the Carquinez Bridge, which replaced the original 1927 span, is a twin-towered suspension bridge with three mixed-flow lanes, a new carpool lane shoulders and a bicycle and pedestrian pathway.



New Alfred Zampa Memorial (Carquinez) Bridge Soon after Opening to Traffic, with Crockett Interchange Still under Construction

Benicia-Martinez Bridge Project Project Status: Completed 2009

A two-year project to rehabilitate and reconfigure the original Benicia-Martinez Bridge began shortly after the opening of the new Congressman George Miller Bridge. The existing 1.2-mile roadway surface on the steel deck truss bridge was modified to carry four lanes of southbound traffic (one more than before)—with shoulders on both sides—plus a bicycle/pedestrian path on the west side of the span that connects to Park Road in Benicia and to Marina Vista Boulevard in Martinez. Reconstruction of the east side of the bridge and approaches was completed in August 2008 and reconstruction of the west side of the bridge an approaches and construction of the bicycle/pedestrian pathway was completed in August 2009.

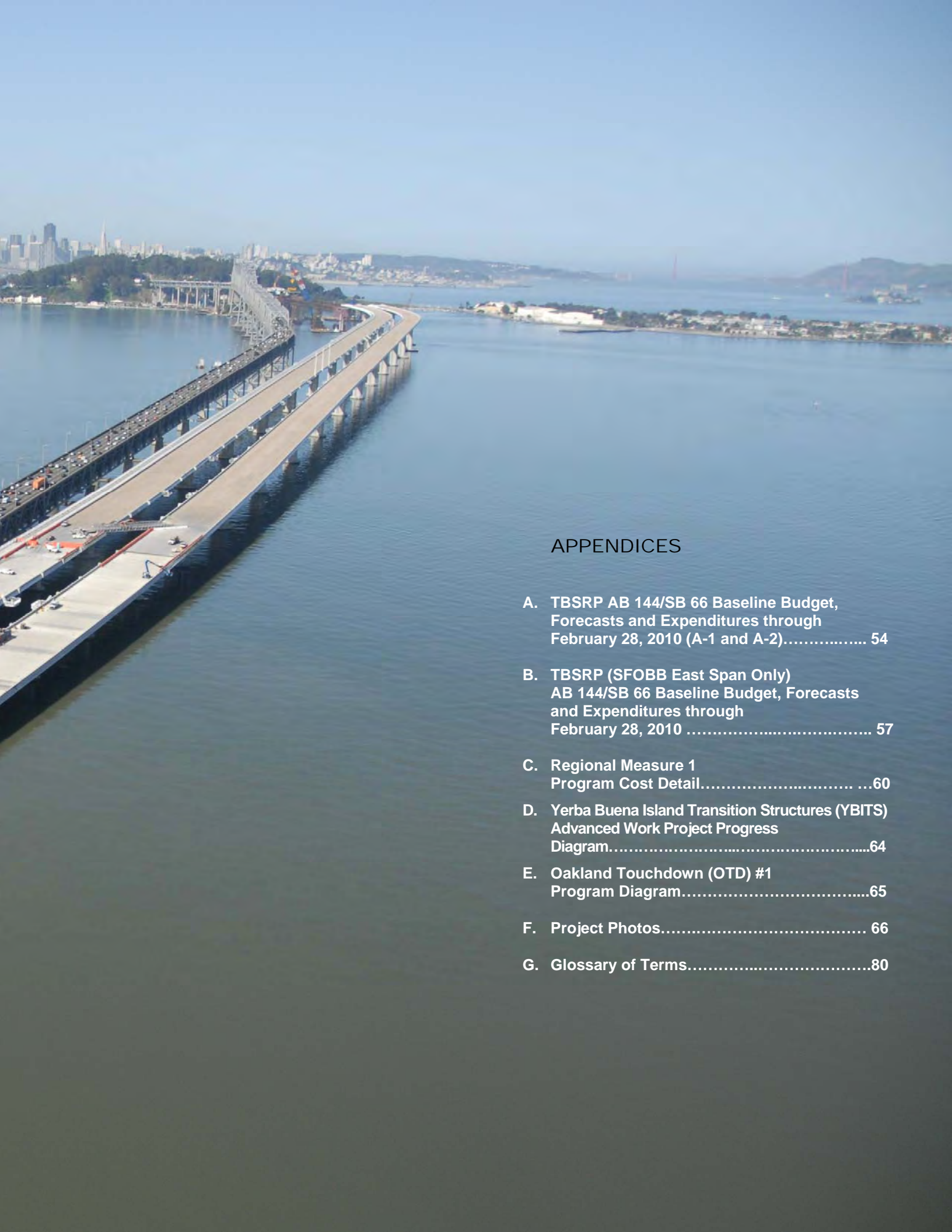


Benicia-Martinez Bridge Pedestrian/Bicycle Pathway Opened to The Public in August 2009

Bayfront Expressway (State Route 84) Widening Project

This project expanded and improved the roadway from the Dumbarton Bridge touchdown to the US 101/Marsh Road interchange by adding additional lanes and turn pockets and improving bicycle and pedestrian access in the area.





APPENDICES

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Appendix A-1: TBSRP AB 144/SB 66 Baseline Budget, Forecasts and Expenditures through February 28, 2010 (\$ Millions)

Contract	AB 144 / SB 66 Budget (07/2005)	Approved Changes	Current Approved Budget (03/2010)	Cost To Date (03/2010)	Cost Forecast (03/2010)	At- Completion Variance
a	c	d	e = c + d	f	g	h = g - e
SFOBB East Span Replacement Project						
Capital Outlay Support	959.3	-	959.3	818.1	1,262.2	302.9
Capital Outlay Construction	4,492.2	203.8	4,696.0	3,197.8	4,929.3	233.3
Other Budgeted Capital	35.1	(3.3)	31.8	0.7	7.7	(24.1)
Total	5,486.6	200.5	5,687.1	4,016.6	6,199.2	512.1
SFOBB West Approach Replacement						
Capital Outlay Support	120.0	(3.0)	117.0	117.0	118.0	1.0
Capital Outlay Construction	309.0	41.7	350.7	328.0	338.1	(12.6)
Total	429.0	38.7	467.7	445.0	456.1	(11.6)
SFOBB West Span Retrofit						
Capital Outlay Support	75.0	-	75.0	74.8	75.0	-
Capital Outlay Construction	232.9	-	232.9	227.2	227.5	(5.4)
Total	307.9	-	307.9	302.0	302.5	(5.4)
Richmond-San Rafael Bridge Retrofit						
Capital Outlay Support	134.0	(7.0)	127.0	126.7	127.0	-
Capital Outlay Construction	780.0	(90.5)	689.5	667.5	689.5	-
Total	914.0	(97.5)	816.5	794.2	816.5	-
Benicia-Martinez Bridge Retrofit						
Capital Outlay Support	38.1	-	38.1	38.1	38.1	-
Capital Outlay Construction	139.7	-	139.7	139.7	139.7	-
Total	177.8	-	177.8	177.8	177.8	-
Carquinez Bridge Retrofit						
Capital Outlay Support	28.7	-	28.7	28.8	28.7	-
Capital Outlay Construction	85.5	-	85.5	85.4	85.5	-
Total	114.2	-	114.2	114.2	114.2	-
San Mateo-Hayward Bridge Retrofit						
Capital Outlay Support	28.1	-	28.1	28.1	28.1	-
Capital Outlay Construction	135.4	-	135.4	135.3	135.4	-
Total	163.5	-	163.5	163.4	163.5	-
Vincent Thomas Bridge Retrofit (Los Angeles)						
Capital Outlay Support	16.4	-	16.4	16.4	16.4	-
Capital Outlay Construction	42.1	-	42.1	42.0	42.1	-
Total	58.5	-	58.5	58.4	58.5	-
San Diego-Coronado Bridge Retrofit						
Capital Outlay Support	33.5	-	33.5	33.2	33.5	-
Capital Outlay Construction	70.0	-	70.0	69.4	70.0	-
Total	103.5	-	103.5	102.6	103.5	-

Note: Details may not sum to totals due to rounding effects.

Appendix A-1: TBSRP AB 144/SB 66 Baseline Budget, Forecasts and Expenditures through February 28, 2010 (\$ Millions) (cont.)

Contract	AB 144 / SB 66 Budget (07/2005)	Approved Changes	Current Approved Budget (03/2010)	Cost To Date (03/2010)	Cost Forecast (03/2010)	At- Completion Variance
a	c	d	e = c + d	f	g	h = g - e
Antioch Bridge						
Capital Outlay Support	-	39.0	39.0	-	31.0	(8.0)
Capital Outlay Construction	-	156.0	156.0	-	70.0	(86.0)
Total	-	195.0	195.0	-	101.0	(94.0)
Dumbarton Bridge						
Capital Outlay Support	-	95.0	95.0	-	103.1	8.1
Capital Outlay Construction	-	270.0	270.0	-	171.9	(98.1)
Total	-	365.0	365.0	-	275.0	(90.0)
Subtotal Capital Outlay Support	1,433.1	124.0	1,557.1	1,281.2	1,861.1	304.0
Subtotal Capital Outlay	6,286.8	581.0	6,867.8	4,892.3	6,899.0	31.2
Subtotal Other Budgeted Capital	35.1	(3.3)	31.8	0.7	7.7	(24.1)
Miscellaneous Program Costs	30.0	-	30.0	24.7	30.0	-
Subtotal Toll Bridge Seismic Retrofit Program	7,785.0	701.7	8,486.7	6,198.9	8,797.8	311.1
Programmatic Risk	-	-	-	-	78.0	78.0
Program Contingency	900.0	48.3	948.3	-	422.2	(526.1)
Total Toll Bridge Seismic Retrofit Program	8,685.0	750.0	9,435.0	6,198.9	9,298.0	(137.0)

Appendix A-2: TBSRP AB 144/SB 66 Baseline Budget, Forecasts and Expenditures through February 28, 2010 (\$ Millions)

Bridge	Expenditures to date and			Estimated Cost	
	AB 144 Baseline	TBPOC Current	as of Mar 2010	not yet Spent	Total Forecast
	Budget	approved Budget	See Note (1)	or Encumbered	as of Mar 2010
a	b	c	d	e	f = d + e
Other Completed Projects					
Capital Outlay Support	144.9	144.9	144.6	0.2	144.8
Capital Outlay	472.6	472.6	472.6	0.1	472.7
Total	617.5	617.5	617.2	0.3	617.5
Richmond-San Rafael					
Capital Outlay Support	134.0	127.0	126.7	0.3	127.0
Capital Outlay	698.0	689.5	674.2	15.3	689.5
Project Reserves	82.0	-	-	-	-
Total	914.0	816.5	800.9	15.6	816.5
West Span Retrofit					
Capital Outlay Support	75.0	75.0	74.8	0.2	75.0
Capital Outlay	232.9	232.9	232.7	(5.2)	227.5
Total	307.9	307.9	307.5	(5.0)	302.5
West Approach					
Capital Outlay Support	120.0	117.0	117.8	0.2	118.0
Capital Outlay	309.0	350.7	342.5	(4.4)	338.1
Total	429.0	467.7	460.3	(4.2)	456.1
SFOBB East Span -Skyway					
Capital Outlay Support	197.0	181.2	181.3	(0.1)	181.2
Capital Outlay	1,293.0	1,254.1	1,368.4	(114.3)	1,254.1
Total	1,490.0	1,435.3	1,549.7	(114.4)	1,435.3
SFOBB East Span -SAS- Superstructure					
Capital Outlay Support	214.6	214.6	212.8	247.2	460.0
Capital Outlay	1,753.7	1,753.7	1,649.6	341.8	1,991.4
Total	1,968.3	1,968.3	1,862.4	589.0	2,451.4
SFOBB East Span -SAS- Foundations					
Capital Outlay Support	62.5	37.6	37.6	-	37.6
Capital Outlay	339.9	307.3	308.7	(1.4)	307.3
Total	402.4	344.9	346.3	(1.4)	344.9
Small YBI Projects					
Capital Outlay Support	10.6	10.6	10.1	0.5	10.6
Capital Outlay	15.6	15.6	16.6	(0.9)	15.7
Total	26.2	26.2	26.7	(0.4)	26.3
YBI Detour					
Capital Outlay Support	29.5	84.5	80.5	8.7	89.2
Capital Outlay	131.9	492.9	493.0	(6.7)	486.3
Total	161.4	577.4	573.5	2.0	575.5
YBI - Transition Structures					
Capital Outlay Support	78.7	78.8	16.4	103.6	120.0
Capital Outlay	299.4	206.3	126.6	93.6	220.2
Total	378.1	285.1	143.0	197.2	340.2

Note: Details may not sum to totals due to rounding effects.

Notes: * Budget for Richmond-San Rafael Bridge includes \$16.9 million of deck joint rehabilitation work that is considered to be eligible for seismic retrofit program funding.

Appendix A-2: TBSRP AB 144/SB 66 Baseline Budget, Forecasts and Expenditures through February 28, 2010 (\$ Millions) (continued)

Bridge	Expenditures to date and			Estimated Cost	
	AB 144 Baseline	TBPOC Current	as of Mar 2010	not yet Spent	Total Forecast
	Budget	approved Budget	See Note (1)	or Encumbered	as of Mar 2010
a	b	c	d	e	f = d + e
Oakland Touchdown					
Capital Outlay Support	74.4	84.6	73.1	22.1	95.2
Capital Outlay	283.8	288.0	218.0	65.0	283.0
Total	358.2	372.6	291.1	87.1	378.2
East Span Other Small Project					
Capital Outlay Support	212.3	206.5	211.2	(4.6)	206.6
Capital Outlay	170.8	170.8	94.0	52.6	146.6
Total	383.1	377.3	305.2	48.0	353.2
Existing Bridge Demolition					
Capital Outlay Support	79.7	60.9	0.4	61.4	61.8
Capital Outlay	239.2	239.1	-	232.4	232.4
Total	318.9	300.0	0.4	293.8	294.2
Antioch Bridge					
Capital Outlay Support	-	39.0	-	31.0	31.0
Capital Outlay	-	156.0	-	70.0	70.0
Total	-	195.0	-	101.0	101.0
Dumbarton Bridge					
Capital Outlay Support	-	95.0	-	103.1	103.1
Capital Outlay	-	270.0	-	171.9	171.9
Total	-	365.0	-	275.0	275.0
Miscellaneous Program Costs	30.0	30.0	25.4	4.6	30.0
Total Capital Outlay Support (2)	1,463.2	1,587.2	1,312.7	444.3	1,891.1
Total Capital Outlay	6,321.8	6,899.5	5,996.9	667.9	6,906.7
Program Total	7,785.0	8,486.7	7,309.6	1,112.2	8,797.8

(1). Funds allocated to project or contract for Capital Outlay and Support needs includes Capital Outlay Support total allocation for FY 06/07.

(2). BSA provided a distribution of program contingency in December 2004 based on Bechtel Infrastructure Corporation input.

This column is subject to revision upon completion of Department's risk assessment update.

(3). Total Capital Outlay Support includes program indirect costs.

Appendix B: TBSRP (SFOBB East Span Only) AB 144/SB 66 Baseline Budget, Forecasts and Expenditures through February 28, 2010 (\$ Millions)

Contract	AB 144 / SB 66 Budget (07/2005)	Approved Changes	Current Approved Budget (03/2010)	Cost To Date (03/2010)	Cost Forecast (03/2010)	At- Completion Variance
a	c	d	e = c + d	f	g	h = g - e
San Francisco-Oakland Bay Bridge East Span Replacement						
East Span - SAS Superstructure						
Capital Outlay Support	214.6	-	214.6	210.2	460.0	245.4
Capital Outlay Construction	1,753.7	-	1,753.7	905.5	1,991.4	237.7
Total	1,968.3	-	1,968.3	1,115.7	2,451.4	483.1
SAS W2 Foundations						
Capital Outlay Support	10.0	(0.8)	9.2	9.2	9.2	-
Capital Outlay Construction	26.4	-	26.4	25.8	26.4	-
Total	36.4	(0.8)	35.6	35.0	35.6	-
YBI South/South Detour						
Capital Outlay Support	29.4	55.1	84.5	79.3	89.2	4.7
Capital Outlay Construction	132.0	360.9	492.9	420.0	486.3	(6.6)
Total	161.4	416.0	577.4	499.3	575.5	(1.9)
East Span - Skyway						
Capital Outlay Support	197.0	(15.8)	181.2	181.2	181.2	-
Capital Outlay Construction	1,293.0	(38.9)	1,254.1	1,236.9	1,254.1	-
Total	1,490.0	(54.7)	1,435.3	1,418.1	1,435.3	-
East Span - SAS E2/T1 Foundations						
Capital Outlay Support	52.5	(24.1)	28.4	28.4	28.4	-
Capital Outlay Construction	313.5	(32.6)	280.9	274.8	280.9	-
Total	366.0	(56.7)	309.3	303.2	309.3	-
YBI Transition Structures (see notes below)						
Capital Outlay Support	78.7	0.1	78.8	29.8	120.0	41.2
Capital Outlay Construction	299.3	(93.0)	206.3	-	220.2	13.9
Total	378.0	(92.9)	285.1	29.8	340.2	55.1
* YBI- Transition Structures						
Capital Outlay Support			16.7	16.4	16.5	(0.2)
Capital Outlay Construction			-	-	-	-
Total			16.7	16.4	16.5	(0.2)
* YBI- Transition Structures Contract No. 1						
Capital Outlay Support			45.1	9.4	69.7	24.7
Capital Outlay Construction			144.0	-	156.9	12.9
Total			189.1	9.4	226.6	37.6
* YBI- Transition Structures Contract No. 2						
Capital Outlay Support			16.0	3.9	32.8	16.8
Capital Outlay Construction			59.0	-	60.0	1.0
Total			75.0	3.9	92.8	17.8
* YBI- Transition Structures Contract No. 3 Landscape						
Capital Outlay Support			1.0	-	1.0	-
Capital Outlay Construction			3.3	-	3.3	-
Total			4.3	-	4.3	-

Note: Details may not sum to totals due to rounding effects.

Appendix B: TBSRP (SFOBB East Span Only) AB 144/SB 66 Baseline Budget, Forecasts and Expenditures through February 28, 2010 (\$ Millions) (continued)

Contract	AB 144 / SB 66 Budget (07/2005)	Approved Changes	Current Approved Budget (03/2010)	Cost To Date (03/2010)	Cost Forecast (03/2010)	At- Completion Variance
a	c	d	e = c + d	f	g	h = g - e
Oakland Touchdown (see notes below)						
Capital Outlay Support	74.4	10.2	84.6	71.7	95.2	10.6
Capital Outlay Construction	283.8	4.2	288.0	203.5	283.0	(5.0)
Total	358.2	14.4	372.6	275.2	378.2	5.6
* OTD Prior-to-Split Costs						
Capital Outlay Support			21.0	20.1	21.7	0.7
Capital Outlay Construction			-	-	-	-
Total			21.0	20.1	21.7	0.7
* OTD Submarine Cable						
Capital Outlay Support			0.9	0.9	0.9	-
Capital Outlay Construction			9.6	7.9	9.6	-
Total			10.5	8.8	10.5	-
* OTD No. 1 (Westbound)						
Capital Outlay Support			45.5	44.1	47.6	2.1
Capital Outlay Construction			212.0	195.6	211.2	(0.8)
Total			257.5	239.7	258.8	1.3
* OTD No. 2 (Eastbound)						
Capital Outlay Support			15.8	5.9	23.5	7.7
Capital Outlay Construction			62.0	-	57.8	(4.2)
Total			77.8	5.9	81.3	3.5
* OTD Electrical Systems						
Capital Outlay Support			1.4	0.8	1.5	0.1
Capital Outlay Construction			4.4	-	4.4	-
Total			5.8	0.8	5.9	0.1
Existing Bridge Demolition						
Capital Outlay Support	79.7	(18.8)	60.9	0.4	61.8	0.9
Capital Outlay Construction	239.2	(0.1)	239.1	-	232.4	(6.7)
Total	318.9	(18.9)	300.0	0.4	294.2	(5.8)
YBI/SAS Archeology						
Capital Outlay Support	1.1	-	1.1	1.1	1.1	-
Capital Outlay Construction	1.1	-	1.1	1.1	1.1	-
Total	2.2	-	2.2	2.2	2.2	-
YBI - USCG Road Relocation						
Capital Outlay Support	3.0	-	3.0	2.7	3.0	-
Capital Outlay Construction	3.0	-	3.0	2.8	3.0	-
Total	6.0	-	6.0	5.5	6.0	-
YBI - Substation and Viaduct						
Capital Outlay Support	6.5	-	6.5	6.4	6.5	-
Capital Outlay Construction	11.6	-	11.6	11.3	11.6	-
Total	18.1	-	18.1	17.7	18.1	-
Oakland Geofill						
Capital Outlay Support	2.5	-	2.5	2.5	2.5	-
Capital Outlay Construction	8.2	-	8.2	8.2	8.2	-
Total	10.7	-	10.7	10.7	10.7	-

Note: Details may not sum to totals due to rounding effects.

Appendix B: TBSRP (SFOBB East Span Only) AB 144/SB 66 Baseline Budget, Forecasts and Expenditures through February 28, 2010 (\$ Millions) (continued)

Contract	AB 144 / SB 66 Budget (07/2005)	Approved Changes	Current Approved Budget (03/2010)	Cost To Date (03/2010)	Cost Forecast (03/2010)	At- Completion Variance
a	c	d	e = c + d	f	g	h = g - e
Pile Installation Demonstration Project						
Capital Outlay Support	1.8	-	1.8	1.8	1.8	-
Capital Outlay Construction	9.2	-	9.2	9.2	9.2	-
Total	11.0	-	11.0	11.0	11.0	-
Stormwater Treatment Measures						
Capital Outlay Support	6.0	2.2	8.2	8.1	8.2	-
Capital Outlay Construction	15.0	3.3	18.3	16.7	18.3	-
Total	21.0	5.5	26.5	24.8	26.5	-
Right-of-Way and Environmental Mitigation						
Capital Outlay Support	-	-	-	-	-	-
Capital Outlay & Right-of-Way	72.4	-	72.4	51.2	72.4	-
Total	72.4	-	72.4	51.2	72.4	-
Sunk Cost - Existing East Span Retrofit						
Capital Outlay Support	39.5	-	39.5	39.5	39.5	-
Capital Outlay Construction	30.8	-	30.8	30.8	30.8	-
Total	70.3	-	70.3	70.3	70.3	-
Other Capital Outlay Support						
Environmental Phase	97.7	-	97.7	97.7	97.7	-
Pre-Split Project Expenditures	44.9	-	44.9	44.9	44.9	-
Non-project Specific Costs	20.0	(8.0)	12.0	3.2	12.0	-
Total	162.6	(8.0)	154.6	145.8	154.6	-
Subtotal Capital Outlay Support	959.3	-	959.3	818.1	1,262.2	302.9
Subtotal Capital Outlay Construction	4,492.2	203.8	4,696.0	3,197.8	4,929.3	233.3
Other Budgeted Capital	35.1	(3.3)	31.8	0.7	7.7	(24.1)
						-
Total SFOBB East Span Replacement Project	5,486.6	200.5	5,687.1	4,016.6	6,199.2	512.1

Appendix C: Regional Measure 1 Program Cost Detail (\$ Millions)

Contract	AB 144 / SB	Approved Changes	Current	Cost To Date (03/2010)	Cost	At-
	66 Budget (07/2005)		Approved Budget (03/2010)		Forecast (03/2010)	Completion Variance
a	c	d	e = c + d	f	g	h = g - e
New Benicia-Martinez Bridge Project						
New Bridge						
Capital Outlay Support						
BATA Funding	84.9	6.9	91.8	91.8	91.8	-
Non-BATA Funding	-	0.1	0.1	0.1	0.1	-
Subtotal	84.9	7.0	91.9	91.9	91.9	-
Capital Outlay Construction			-			-
BATA Funding	661.9	94.6	756.5	753.8	756.5	-
Non-BATA Funding	10.1	-	10.1	10.1	10.1	-
Subtotal	672.0	94.6	766.6	763.9	766.6	-
Total	756.9	101.6	858.5	855.8	858.5	-
I-680/I-780 Interchange Reconstruction						
Capital Outlay Support						
BATA Funding	24.9	5.2	30.1	30.1	30.1	-
Non-BATA Funding	1.4	5.2	6.6	6.3	6.6	-
Subtotal	26.3	10.4	36.7	36.4	36.7	-
Capital Outlay Construction						
BATA Funding	54.7	26.9	81.6	77.1	81.6	-
Non-BATA Funding	21.6	-	21.6	21.7	21.7	0.1
Subtotal	76.3	26.9	103.2	98.8	103.3	0.1
Total	102.6	37.3	139.9	135.2	140.0	0.1
I-680/Marina Vista Interchange Reconstruction						
Capital Outlay Support	18.3	1.8	20.1	20.2	20.2	0.1
Capital Outlay Construction	51.5	4.9	56.4	56.1	56.4	-
Total	69.8	6.7	76.5	76.3	76.6	0.1
New Toll Plaza and Administration Building						
Capital Outlay Support	11.9	3.8	15.7	15.7	15.7	-
Capital Outlay Construction	24.3	2.0	26.3	25.1	26.3	-
Total	36.2	5.8	42.0	40.8	42.0	-
Existing Bridge & Interchange Modifications						
Capital Outlay Support						
BATA Funding	4.3	13.5	17.8	17.8	17.8	-
Non-BATA Funding	-	0.9	0.9	0.8	0.9	-
Subtotal	4.3	14.4	18.7	18.6	18.7	-
Capital Outlay Construction						
BATA Funding	17.2	32.8	50.0	37.0	50.0	-
Non-BATA Funding	-	9.5	9.5	-	9.5	-
Subtotal	17.2	42.3	59.5	37.0	59.5	-
Total	21.5	56.7	78.2	55.6	78.2	-
Other Contracts						
Capital Outlay Support	11.4	(2.3)	9.1	9.0	9.1	-
Capital Outlay Construction	20.3	3.3	23.6	17.5	23.6	-
Capital Outlay Right-of-Way	20.4	(0.1)	20.3	17.0	20.3	-
Total	52.1	0.9	53.0	43.5	53.0	-

Note: Details may not sum to totals due to rounding effects.

Appendix C: Regional Measure 1 Program Cost Detail (\$ Millions) (Continued)

Contract	AB 144 / SB	Approved Changes	Current	Cost To Date (03/2010)	Cost	At-
	66 Budget (07/2005)		Budget (03/2010)		Forecast (03/2010)	Completion Variance
a	c	d	e = c + d	f	g	h = g - e
New Benicia-Martinez Bridge Project continued...						
Subtotal BATA Capital Outlay Support	155.7	28.9	184.6	184.6	184.7	0.1
Subtotal BATA Capital Outlay Construction	829.9	164.5	994.4	966.6	994.4	-
Subtotal Capital Outlay Right-of-Way	20.4	(0.1)	20.3	17.0	20.3	-
Subtotal Non-BATA Capital Outlay Support	1.4	6.2	7.6	7.2	7.6	-
Subtotal Non-BATA Capital Outlay Construction	31.7	9.5	41.2	31.8	41.3	0.1
Project Reserves	20.8	3.6	24.4	-	24.2	(0.2)
Total New Benicia-Martinez Bridge Project						
	1,059.9	212.6	1,272.5	1,207.2	1,272.5	-
Notes:	Includes EA's 00601_, 00603_, 00605_, 00606_, 00608_, 00609_, 0060A_, 0060C_, 0060E_, 0060F_, 0060G_, and 0060H_ and all Project Right-of-Way					
Carquinez Bridge Replacement Project						
New Bridge						
Capital Outlay Support	60.5	(0.3)	60.2	60.2	60.2	-
Capital Outlay Construction	253.3	2.7	256.0	255.9	256.0	-
Total	313.8	2.4	316.2	316.1	316.2	-
Crockett Interchange Reconstruction						
Capital Outlay Support	32.0	(0.1)	31.9	31.9	31.9	-
Capital Outlay Construction	73.9	(1.9)	72.0	71.9	72.0	-
Total	105.9	(2.0)	103.9	103.8	103.9	-
Existing 1927 Bridge Demolition						
Capital Outlay Support	16.1	(0.5)	15.6	15.7	15.7	0.1
Capital Outlay Construction	35.2	-	35.2	34.8	35.2	-
Total	51.3	(0.5)	50.8	50.5	50.9	0.1
Other Contracts						
Capital Outlay Support	15.8	1.2	17.0	16.3	17.0	-
Capital Outlay Construction	18.8	(1.2)	17.6	16.2	17.6	-
Capital Outlay Right-of-Way	10.5	(0.1)	10.4	10.0	10.4	-
Total	45.1	(0.1)	45.0	42.5	45.0	-
Subtotal BATA Capital Outlay Support	124.4	0.3	124.7	124.1	124.8	0.1
Subtotal BATA Capital Outlay Construction	381.2	(0.4)	380.8	378.8	380.8	-
Subtotal Capital Outlay Right-of-Way	10.5	(0.1)	10.4	10.0	10.4	-
Project Reserves	12.1	(9.8)	2.3	-	2.2	(0.1)
Total Carquinez Bridge Replacement Project						
	528.2	(10.0)	518.2	512.9	518.2	-
Notes:	Other Contracts includes EA's 01301_, 01302_, 01303_, 01304_, 01305_, 01306_, 01307_, 01308_, 01309_, 0130A_, 0130C_, 0130D_, 0130F_, 0130G_, 0130H_, 0130J_, 00453_, 00493_, 04700_, 00607_, 2A270_, and 29920_ and all Project Right-of-Way					

Note: Details may not sum to totals due to rounding effects.

Appendix C: Regional Measure 1 Program Cost Detail (\$ Millions) (Continued)

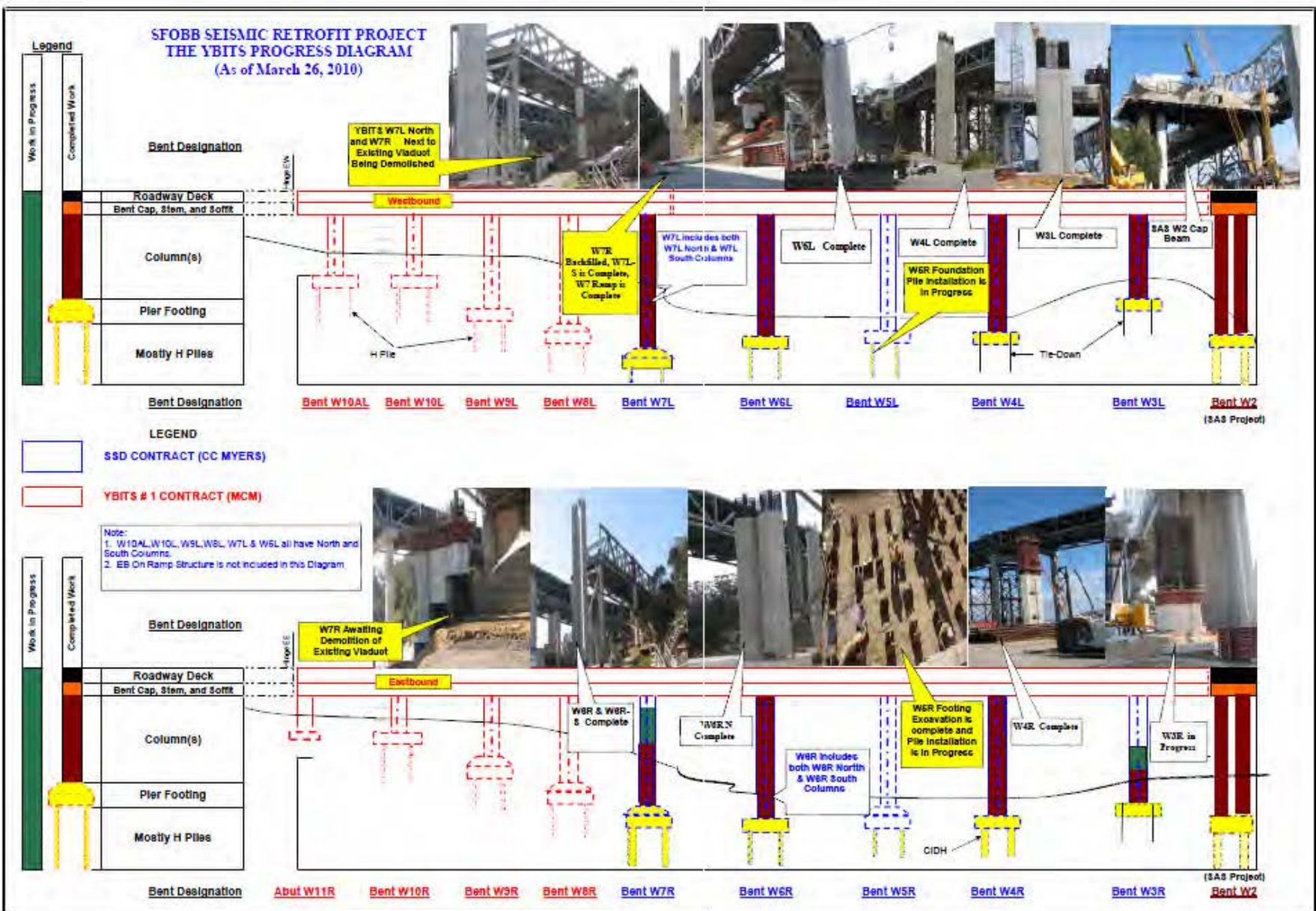
Contract	AB 144 / SB 66 Budget (07/2005)	Approved Changes	Current Approved Budget (03/2010)	Cost To Date (03/2010)	Cost Forecast (03/2010)	At- Completion Variance
a	c	d	e = c + d	f	g	h = g - e
Richmond-San Rafael Bridge Trestle, Fender, and Deck Joint Rehabilitation See note ¹ below						
Capital Outlay Support						
BATA Funding	2.2	(0.8)	1.4	1.4	1.4	-
Non-BATA Funding	8.6	1.8	10.4	10.4	10.4	-
Subtotal	10.8	1.0	11.8	11.8	11.8	-
Capital Outlay Construction						
BATA Funding	40.2	(6.8)	33.4	33.3	33.4	-
Non-BATA Funding	51.1	-	51.1	51.1	51.1	-
Subtotal	91.3	(6.8)	84.5	84.4	84.5	-
Project Reserves	-	0.8	0.8	-	0.8	-
Total	102.1	(5.0)	97.1	96.2	97.1	-
Richmond-San Rafael Bridge Deck Overlay Rehabilitation						
Capital Outlay Support						
BATA Funding	4.0	(0.7)	3.3	3.3	3.3	-
Non-BATA Funding	4.0	(4.0)	-	-	-	-
Subtotal	8.0	(4.7)	3.3	3.3	3.3	-
Capital Outlay Construction	16.9	(0.6)	16.3	16.3	16.3	-
Project Reserves	0.1	0.3	0.4	-	0.4	-
Total	25.0	(5.0)	20.0	19.6	20.0	-
Richmond Parkway Project (RM 1 Share Only)						
Capital Outlay Support	-	-	-	-	-	-
Capital Outlay Construction	5.9	-	5.9	4.3	5.9	-
Total	5.9	-	5.9	4.3	5.9	-
San Mateo-Hayward Bridge Widening						
Capital Outlay Support	34.6	(0.5)	34.1	34.1	34.1	-
Capital Outlay Construction	180.2	(6.1)	174.1	174.1	174.1	-
Capital Outlay Right-of-Way	1.5	(0.9)	0.6	0.5	0.6	-
Project Reserves	1.5	(0.5)	1.0	-	1.0	-
Total	217.8	(8.0)	209.8	208.7	209.8	-
I-880/SR-92 Interchange Reconstruction						
Capital Outlay Support	28.8	34.6	63.4	52.6	63.4	-
Capital Outlay Construction						
BATA Funding	85.2	66.2	151.4	92.5	151.4	-
Non-BATA Funding	9.6	-	9.6	-	9.6	-
Subtotal	94.8	66.2	161.0	92.5	161.0	-
Capital Outlay Right-of-Way	9.9	7.0	16.9	12.0	16.9	-
Project Reserves	0.3	3.4	3.7	-	3.7	-
Total	133.8	111.2	245.0	157.1	245.0	-
Bayfront Expressway Widening						
Capital Outlay Support	8.6	(0.2)	8.4	8.3	8.4	-
Capital Outlay Construction	26.5	(1.5)	25.0	24.9	25.0	-
Capital Outlay Right-of-Way	0.2	-	0.2	0.2	0.2	-
Project Reserves	0.8	(0.3)	0.5	-	0.5	-
Total	36.1	(2.0)	34.1	33.4	34.1	-

Notes: 2Details may not sum to totals due to rounding effects.

Appendix C: Regional Measure 1 Program Cost Detail (\$ Millions) (Continued)

Contract	AB 144 / SB 66 Budget (07/2005)	Approved Changes	Current Approved Budget (03/2010)	Cost To Date (03/2010)	Cost Forecast (03/2010)	At- Completion Variance
a	c	d	e = c + d	f	g	h = g - e
US 101/University Avenue Interchange Modification						
Capital Outlay Support	-	-	-	-	-	-
Capital Outlay Construction	3.8	-	3.8	3.7	3.8	-
Total	3.8	-	3.8	3.7	3.8	-
Subtotal BATA Capital Outlay Support	358.3	61.6	419.9	408.4	420.1	0.2
Subtotal BATA Capital Outlay Construction	1,569.8	215.3	1,785.1	1,694.5	1,785.1	-
Subtotal Capital Outlay Right-of-Way	42.5	5.9	48.4	39.7	48.4	-
Subtotal Non-BATA Capital Outlay Support	14.0	4.0	18.0	17.6	18.0	-
Subtotal Non-BATA Capital Outlay Construction	92.4	9.5	101.9	82.9	102.0	0.1
Project Reserves	35.6	(2.5)	33.1	-	32.8	(0.3)
Total RM1 Program	2,112.6	293.8	2,406.4	2,243.1	2,406.4	-
Notes:						
1 Richmond-San Rafael Bridge Trestle, Fender, and Deck Joint Rehabilitation Includes Non-TBSRA Expenses for EA 0438U_ and 04157_						
2 San Mateo-Hayward Bridge Widening Includes EA's 00305_, 04501_, 04502_, 04503_, 04504_, 04505_, 04506_, 04507_, 04508_, 04509_, 27740_, 27790_, 04860_						

Notes: 2Details may not sum to totals due to rounding effects.







Appendix F: Project Progress Photographs

The Completed Skyway on Right and
Existing Bridge on Far Left

Appendix F: Project Progress Photographs

Yerba Buena Island Detour Existing Bridge Demolition



Existing Bridge Demolition Progress on Left, Temporary Detour on Right and Left Coast Lifter Placing a Roadway Box onto the Temporary Structures



Aerial of Existing Bridge Demolition



Aerial View of Demolition of Existing Bridge

Appendix F: Project Progress Photographs

Self-Anchored Suspension Bridge Fabrication



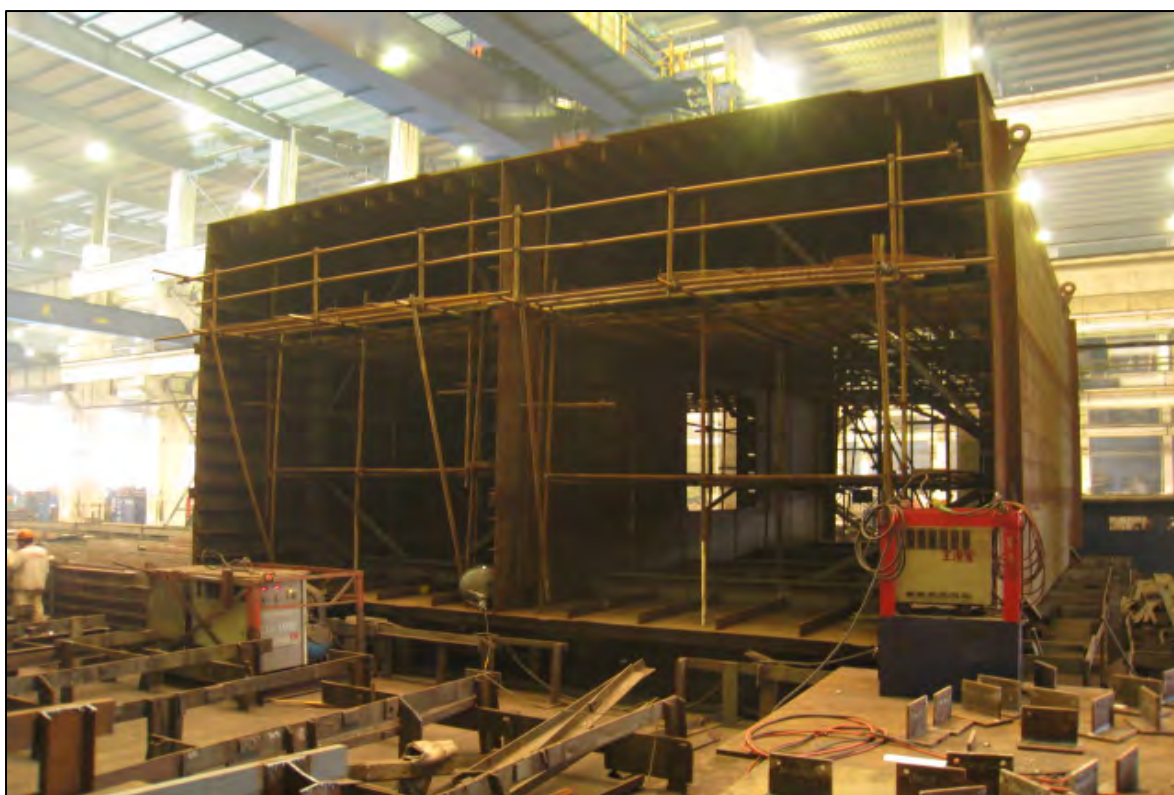
SAS - Overview of Lift 11 & 12 East Line Assembly in Bay 14



SAS - Mock-Up Assembly in Bay 13



SAS - Internal Splice Plate Being Fitted to Skin D of Lift 4 East Shaft



SAS - Crossbeam 15 Assembly in Bay 1

Appendix F: Project Progress Photographs

Self-Anchored Suspension Bridge Field Work



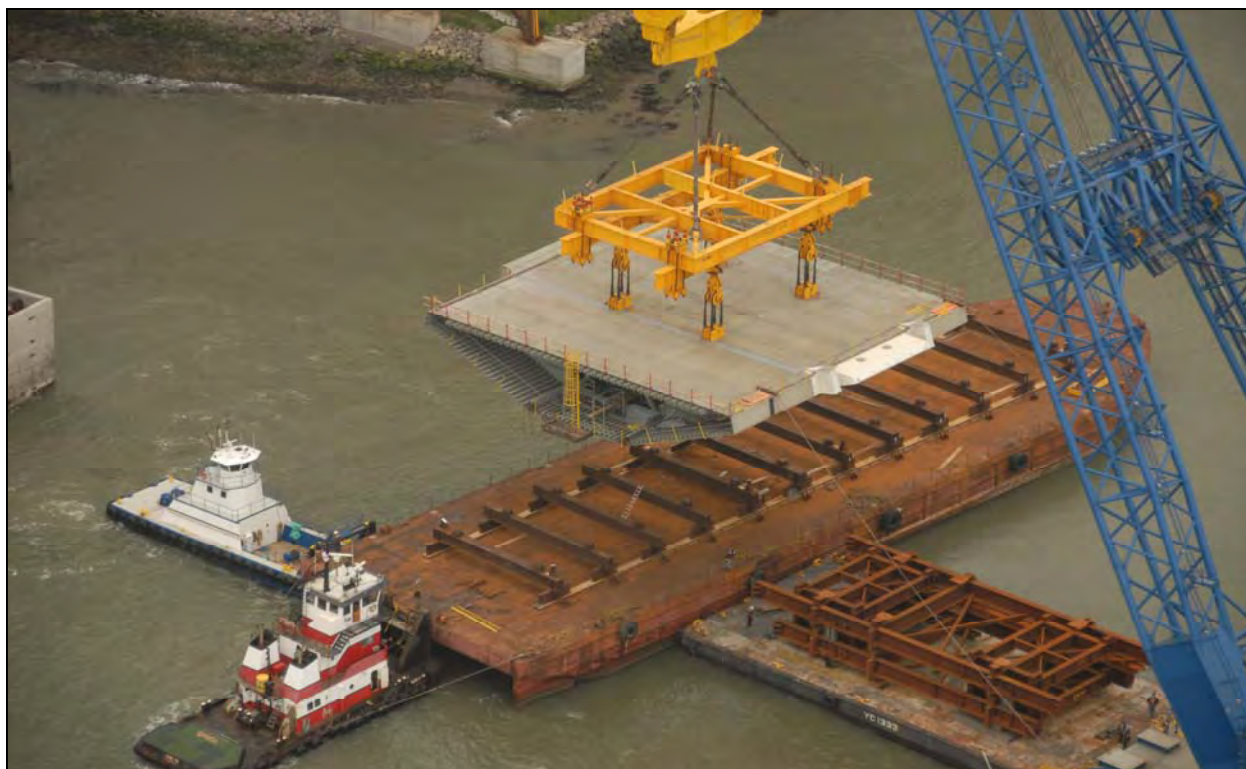
SAS - OBG 3W Being Placed on Temporary Structures



SAS - OBG 3W Being Placed on Temporary Structures



SAS - Positioning onto the Temporary Structures



SAS - OBG Being Lifted onto the Temporary Structures

Appendix F: Project Progress Photographs

Self-Anchored Suspension Bridge Field Work (cont.)



SAS–Offloading OBG



SAS - Offloading OBG



SAS– Offloading Crossbeam



SAS– Arrival in the Bay Area of Shipment #2









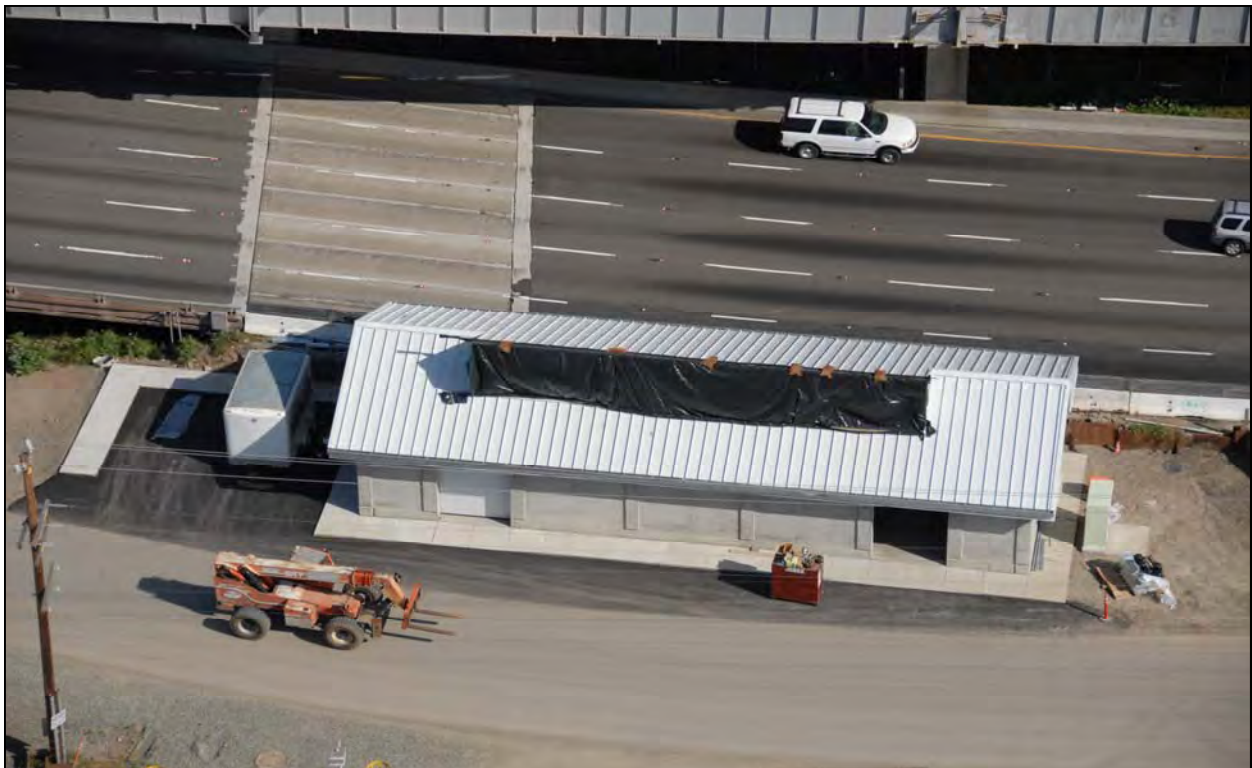
SAS—Roadway Box Lift 3 West Lifted into Place

Appendix F: Project Progress Photographs

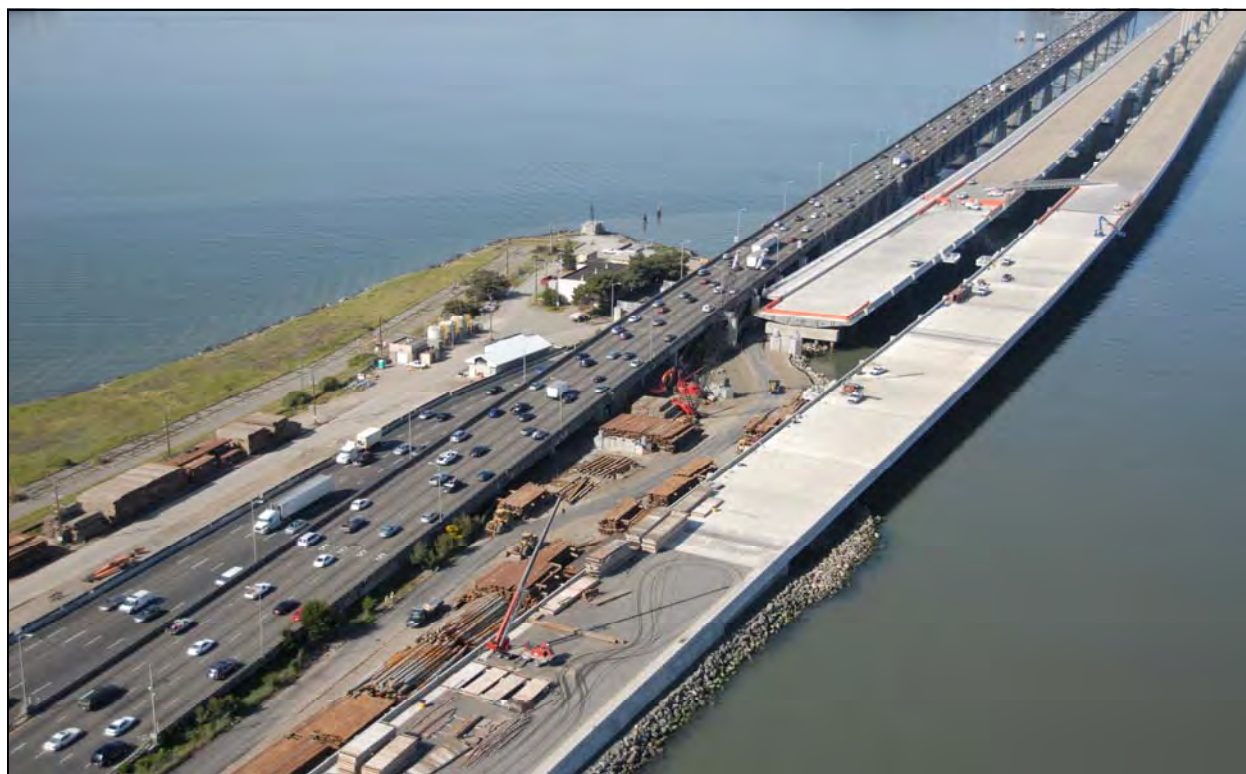
Oakland Touchdown



Oakland Touchdown #1 Overview of Completed OTD #1



Oakland Touchdown #1 Mole Substation Exterior Aerial View



Oakland Touchdown #1 Looking West



Oakland Touchdown #1 Looking East

Appendix F: Project Progress Photographs

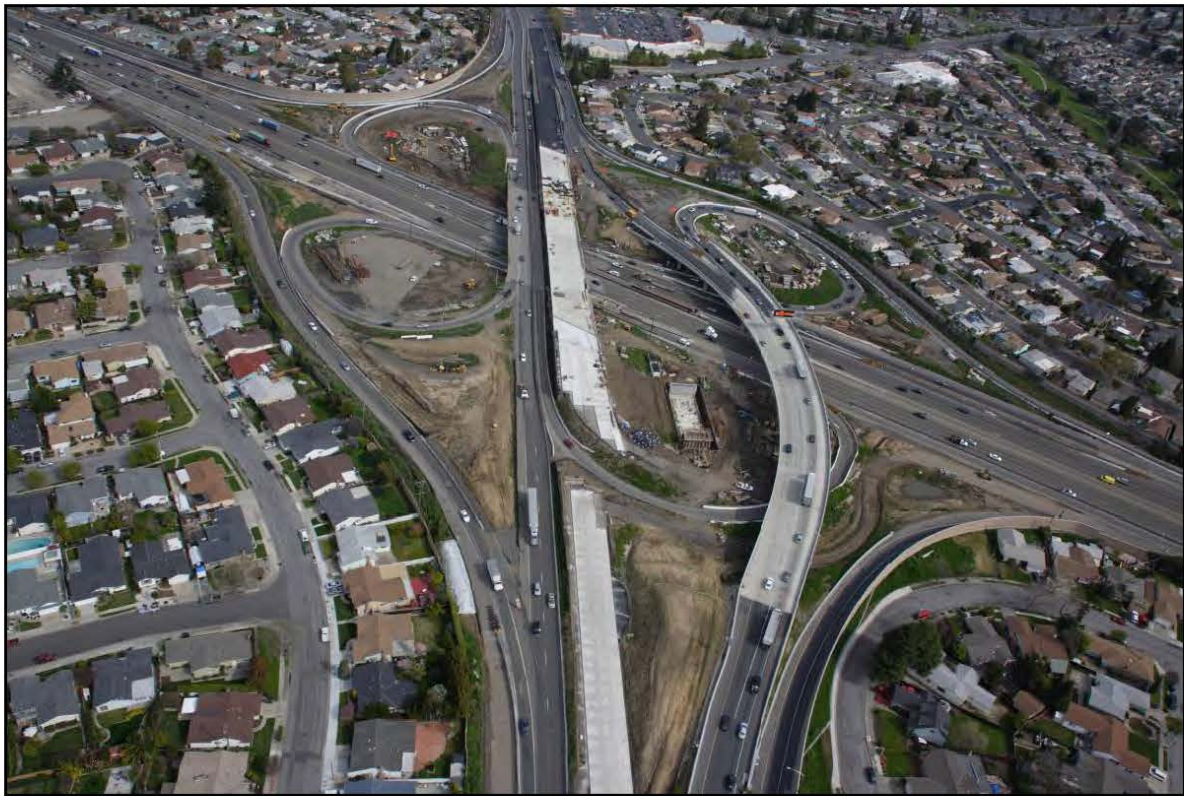
92/880 Interchange



92/880 Site Preparation of New Route 92 and Interstate 880 Separator



92/880 Widening at Mount Eden Overhead Crossing



Appendix G: Glossary of Terms

AB144/SB 66 BUDGET: The planned allocation of resources for the Toll Bridge Seismic Retrofit Program, or subordinate projects or contracts, as provided in Assembly Bill 144 and Senate Bill 66, signed into law by Governor Schwarzenegger on July 18, 2005 and September 29, 2005, respectively.

BATA BUDGET: The planned allocation of resources for the Regional Measure 1 Program, or subordinate projects or contracts as authorized by the Bay Area Toll Authority as of June 2005.

APPROVED CHANGES: For cost, changes to the AB144/SB 66 Budget or BATA Budget as approved by the Bay Area Toll Authority Commission. For schedule, changes to the AB 144/SB 66 Project Complete Baseline approved by the Toll Bridge Program Oversight Committee, or changes to the BATA Project Complete Baseline approved by the Bay Area Toll Authority Commission.

CURRENT APPROVED BUDGET: The sum of the AB144/SB66 Budget or BATA Budget and Approved Changes.

COST TO DATE: The actual expenditures incurred by the program, project or contract as of the month and year shown.

COST FORECAST: The current forecast of all of the costs that are projected to be expended so as to complete the given scope of the program, project, or contract.

AT COMPLETION VARIANCE or VARIANCE (cost): The mathematical difference between the Cost Forecast and the Current Approved Budget.

AB 144/SB 66 PROJECT COMPLETE BASELINE: The planned completion date for the Toll Bridge Seismic Retrofit Program or subordinate projects or contracts.

BATA PROJECT COMPLETE BASELINE: The planned completion date for the Regional Measure 1 Program or subordinate projects or contracts.

PROJECT COMPLETE CURRENT APPROVED SCHEDULE: The sum of the AB144/SB66 Project Complete Baseline or BATA Project Complete Baseline and Approved Changes.

PROJECT COMPLETE SCHEDULE FORECAST: The current projected date for the completion of the program, project, or contract.

SCHEDULE VARIANCE or VARIANCE (schedule): The mathematical difference expressed in months between the Project Complete Schedule Forecast and the Project Complete Current Approved Schedule.

% COMPLETE: % Complete is based on an evaluation of progress on the project, expenditures to date, and schedule.



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The information in this report is provided in accordance with California Government code Section 755. This document is one of a series of reports prepared for the Bay Area Toll Authority (BATA)/Metropolitan Transportation Commission (MTC) for the Toll Bridge Seismic Retrofit and Regional Measure 1 Programs. The contract value for the monitoring efforts, technical analysis, and field site works that contribute to these reports, as well as the report preparation and production is \$1,574,873.73.

URS



**Hatch Mott
MacDonald**

Bay Area Management Consultants

An Association of URS Corporation and Hatch Mott MacDonald



Memorandum

TO: Toll Bridge Program Oversight Committee (TBPOC) **DATE:** April 28, 2010

FR: Tony Anziano, Toll Bridge Program Manager, Caltrans

RE: Agenda No. - 6a1
Item- San Francisco-Oakland Bay Bridge Updates
Yerba Buena Island Detour Update

Recommendation:

For Information Only

Cost:

N/A

Schedule Impacts:

N/A

Discussion:

A verbal update on the Yerba Buena Island Detour contract will be provided at the May 6th meeting.

Attachment(s):

N/A

Memorandum

TO: Toll Bridge Program Oversight Committee **DATE:** April 28, 2010
(TBPOC)

FR: Tony Anziano, Toll Bridge Program Manager, Caltrans

RE: Agenda No. - 6b1

Item- San Francisco-Oakland Bay Bridge Updates
Yerba Buena Island Transition Structures No. 1 Update

Recommendation:

For Information Only

Cost:

N/A

Schedule Impacts:

N/A

Discussion:

A verbal update on the Yerba Buena Island Transition Structures No. 1 contract will be provided at the May 6th meeting.

Attachment(s):

N/A

Memorandum

TO: Toll Bridge Program Oversight Committee (TBPOC) **DATE:** April 28, 2010

FR: Tony Anziano, Toll Bridge Program Manager, Caltrans

RE: Agenda No. - 6c1
Item- San Francisco-Oakland Bay Bridge Updates
Oakland Touchdown No. 1 Update

Recommendation:

For Information Only

Cost:

N/A

Schedule Impacts:

N/A

Discussion:

A verbal update on the Oakland Touchdown No. 1 contract will be provided at the May 6th meeting.

Attachment(s):

N/A

Memorandum

TO: Toll Bridge Program Oversight Committee (TBPOC) **DATE:** April 28, 2010

FR: Tony Anziano, Toll Bridge Program Manager, Caltrans

RE: Agenda No. - 6d1
Item- San Francisco-Oakland Bay Bridge Updates
Oakland Touchdown Contract No. 2 - Scope Change Request

Recommendation:
APPROVAL

Cost:
\$ 1.3 million

Schedule Impacts:
N/A

Discussion:

This is a proposal to transfer a section of the SHOPP funded Segment III bicycle/pedestrian path project (EA 292271) to the Oakland Touchdown Contract No. 2 (OTD2) project. The SHOPP project limits currently extend approximately 600 meters into the OTD2 project. The attached plan identifies the limits of the pathway to be added to the OTD2 contract.

Benefits of adding this scope to the OTD2 contract:

- Clearly separates the contracts.
- The OTD2 contractor will be able to control all work elements within the specified contract limits
- Simplifies the coordination of all work near the bicycle/pedestrian pathway, and should make building this segment of the project more efficient.
- Facilitates the concept of opening the new East Span to bicycles/pedestrians when the eastbound bridge is opened to vehicular traffic. Prior to completion of the permanent access to the new bridge, the temporary public access pathways will be routed through the contract limits of the OTD2 project. Due to the complexity of the anticipated phased construction, having the OTD2 contractor complete this work will minimize the potential schedule and stage

Memorandum

construction conflicts, and advance the ultimate completion of the permanent pathway.






Key elements of this added scope are:

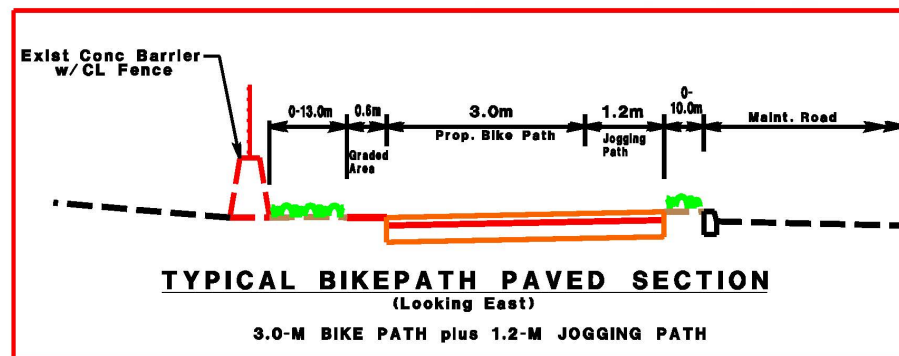
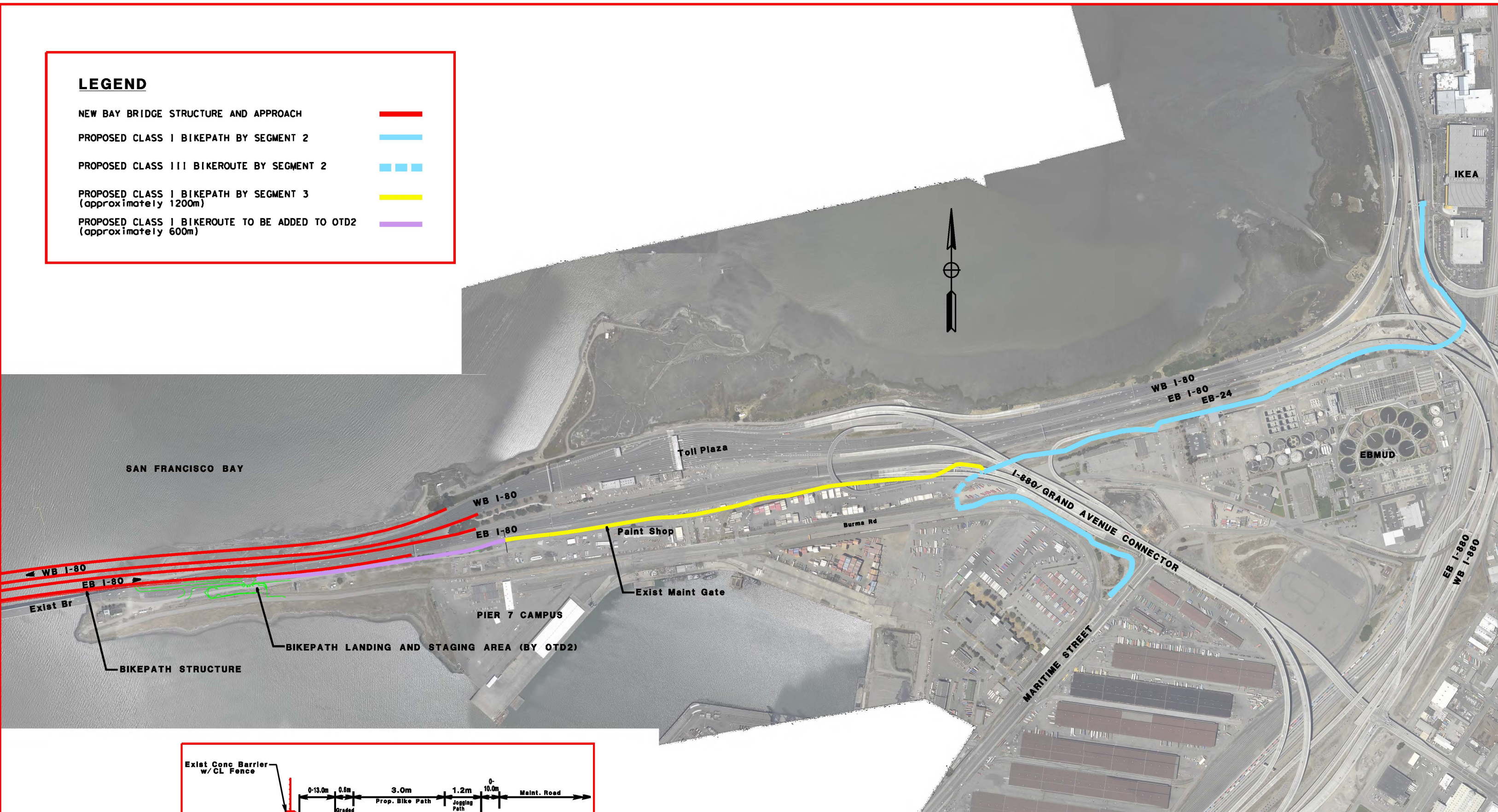
- Additional paving, sub-base, grading, earthwork for the pathway
- Lighting and related electrical conduits
- Erosion control
- Hazardous material mitigation

Attachment(s):

Aerial plan showing path added to OTD2 contract

LEGEND

NEW BAY BRIDGE STRUCTURE AND APPROACH	
PROPOSED CLASS I BIKEPATH BY SEGMENT 2	
PROPOSED CLASS III BIKEROUTE BY SEGMENT 2	
PROPOSED CLASS I BIKEPATH BY SEGMENT 3 (approximately 1200m)	
PROPOSED CLASS I BIKEROUTE TO BE ADDED TO OTD2 (approximately 600m)	



OTD SCOPE CHANGE - ADDITIONAL BIKE PATH

TO: Toll Bridge Program Oversight Committee (TBPOC) **DATE:** April 28, 2010

FR: Steve Hulsebus, Design Manager, Caltrans
Peter Lee, Senior Program Coordinator, BATA

RE: Agenda No. - 6e
San Francisco-Oakland Bay Bridge Updates
Item- Bike Path Options

Recommendation:

For Information Only

Cost:

N/A

Schedule Impacts:

N/A

Discussion:

Opening of the entire bike path prior to completion of the eastbound on ramp at Yerba Buena Island has two major constraints – at YBI, the detour viaduct and the existing bridge conflict with construction of the pathway from W2 westward; and at OTD, the existing eastbound traffic conflicts with construction of the remaining pathway eastward. Both conflicts will need to be resolved before the permanent bike path work can commence.

Ultimately, the critical path to the full opening of the pathway from Oakland to Yerba Buena Island is tied to demolition of the YBI Detour viaduct and the existing cantilever portion of the existing bridge and construction of the new eastbound bike path. This work would take an estimated 18 months after opening of the bridge in eastbound direction.

To open as much of the bike path as possible, staff has explored a number of options and has settled on three OTD options and two YBI options to present to the TBPOC for information. The options are summarized as follows and are presented in more detail in the attachments to this memorandum.

OTD Options	Cost (rounded)
<p>OTD Option 1 – On shoulder from Maintenance Yard</p> <ul style="list-style-type: none"> - Route users from Maintenance Yard through OTD2 construction area and along shoulder - Pathway is substandard - Takes away right shoulder for motorists for 1200 meters - Has low construction and cost impacts 	\$650,000
<p>OTD Option 4 – Elevator/Trestle from Service Road/Maintenance Yard</p> <ul style="list-style-type: none"> - Route users Maintenance Yard through OTD2 construction area on Service Road to an elevator/trestle to constructed OTD pathway. - Pathway is substandard - Does not require shoulder - May need environmental permits for elevator/trestle over water. - Elevator operator required when in use. - Has some construction to OTD2 and cost impacts for right-of-way 	<p>Elevator - \$1,300,000</p> <p>Trestle – \$1,700,000</p>
<p>OTD Option 5 – On shoulder from Burma Road</p> <ul style="list-style-type: none"> - Route users along Burma Road, through OTD2 construction area, then along shoulder - Needs right-of-way along Burma - Pathway is substandard - Takes away right shoulder for motorists for 400 meters - Has some construction to OTD2 and cost impacts for right-of-way 	\$300,000

YBI Options	Cost
<p>YBI Option 1 – Turnaround at W2</p> <ul style="list-style-type: none"> - Turnaround users at W2 after traveling 2.5 miles form OTD. - If a W2 turnaround impacts soft opening, turnaround may need to move to before E2. - Has low construction and cost impacts. 	\$100,000
<p>YBI Option 2 - Elevator at W2</p> <ul style="list-style-type: none"> - Route users to a temporary elevator at W2 with access to island 	\$2,000,000

<p>below.</p> <ul style="list-style-type: none">- Users would be put down in an active construction zone with only shared Class III pathways to the rest of island.- Elevator operator required when in use.- Has high construction and cost impacts.	
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Attachment(s):

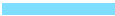
1. OTD Option 1
2. OTD Option 4
3. OTD Option 5
4. YBI Options

LEGEND

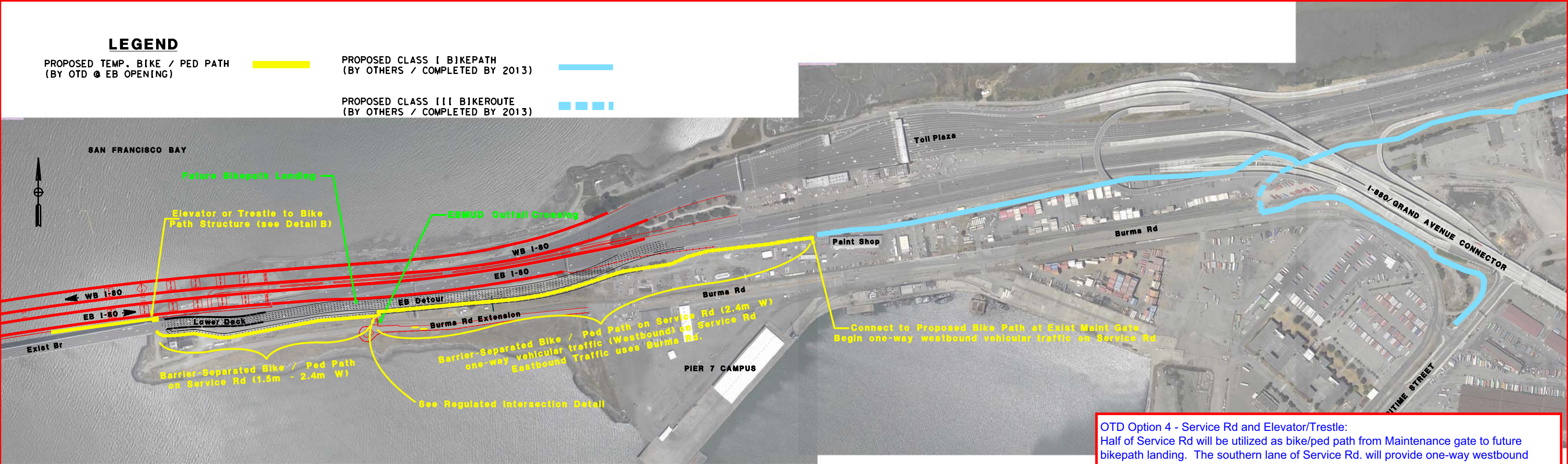
PROPOSED TEMP. BIKE / PED PATH
(BY OTD @ EB OPENING)



PROPOSED CLASS I BIKEPATH
(BY OTHERS / COMPLETED BY 2013)



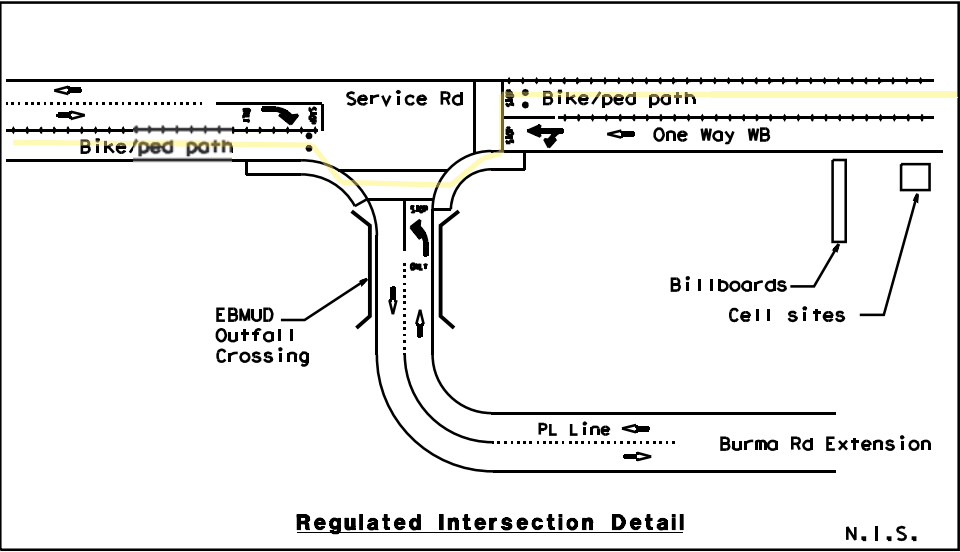
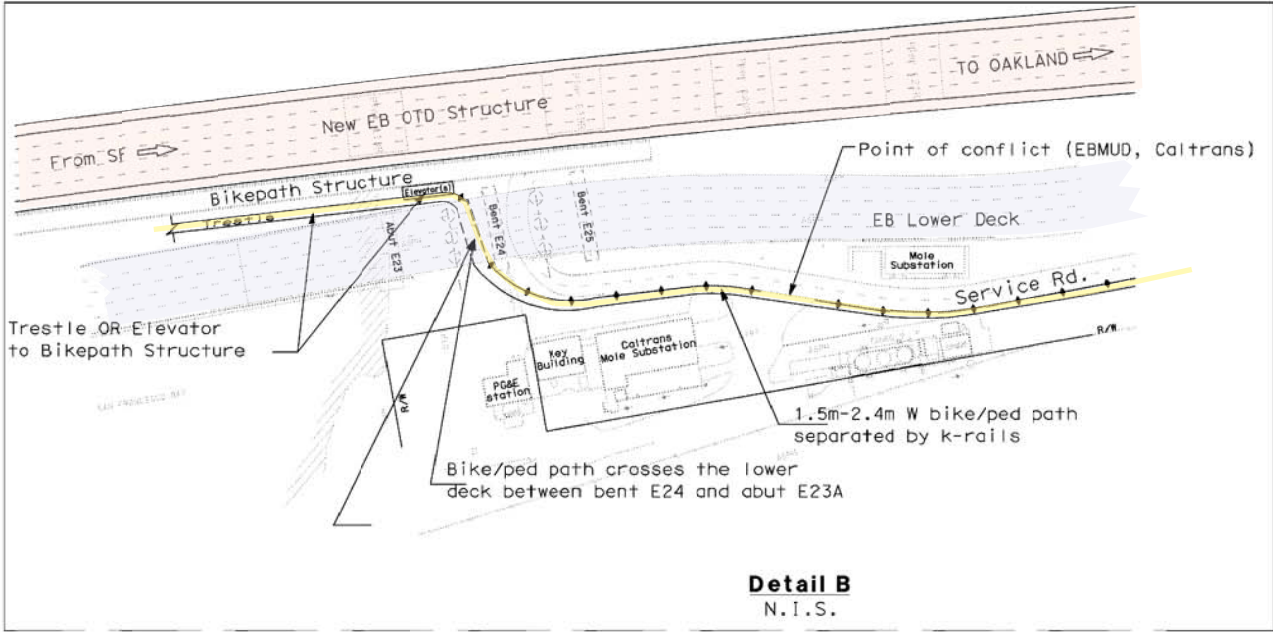
PROPOSED CLASS III BIKEROUTE
(BY OTHERS / COMPLETED BY 2013)



OTD Option 4 - Service Rd and Elevator/Trestle:
Half of Service Rd will be utilized as bike/ped path from Maintenance gate to future bikepath landing. The southern lane of Service Rd. will provide one-way westbound vehicular traffic while the northern lane will be modified to a barrier-separated bike/ped path. Eastbound vehicular traffic will be diverted to Burma Rd. over the EBMUD outfall crossing. From future bike path landing to the bridge, a barrier-separated bike/ped path will be constructed on the south side of Service Rd leading the bike path users to the elevator or trestle connecting to the bikepath structure. Under this option, the construction of EBMUD outfall crossing and Burma Rd. Extension will have to be constructed as first order of work.

- Pros:
- Bike/ped path can be opened concurrently with EB traffic switch.
 - This option has minimal impact to the Contractor's staging work.
 - No shoulder closure on new EB is required.
 - Bike/ped users will not be required to travel on the new EB shoulder next to live traffic.

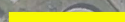
- Cons:
- Substandard bike path width (1.5m - 2.4m) on Service Rd..
 - Placing bike/ped path on the south side of Service Rd. with barrier separated will introduce numerous points of conflict with other users.
 - Increased construction traffic on Burma Rd. through Pier 7 Campus might be a concern.
 - For trestle option, additional permit(s) will be required because work fall within BCDC jurisdiction.
 - Elevator(s) option might result in long queue in an undesirable location; operators are required while the path is in use.



Option 4 - Service Rd and Elevator / Trestle

LEGEND

PROPOSED TEMP. BIKE / PED PATH
(BY SAS @ EB OPENING)



YBI OPTION 1;
BIKE PATH TERMINATES JUST EAST OF BENT W2. BIKE/PATH USERS WILL HAVE TO TURN-AROUND

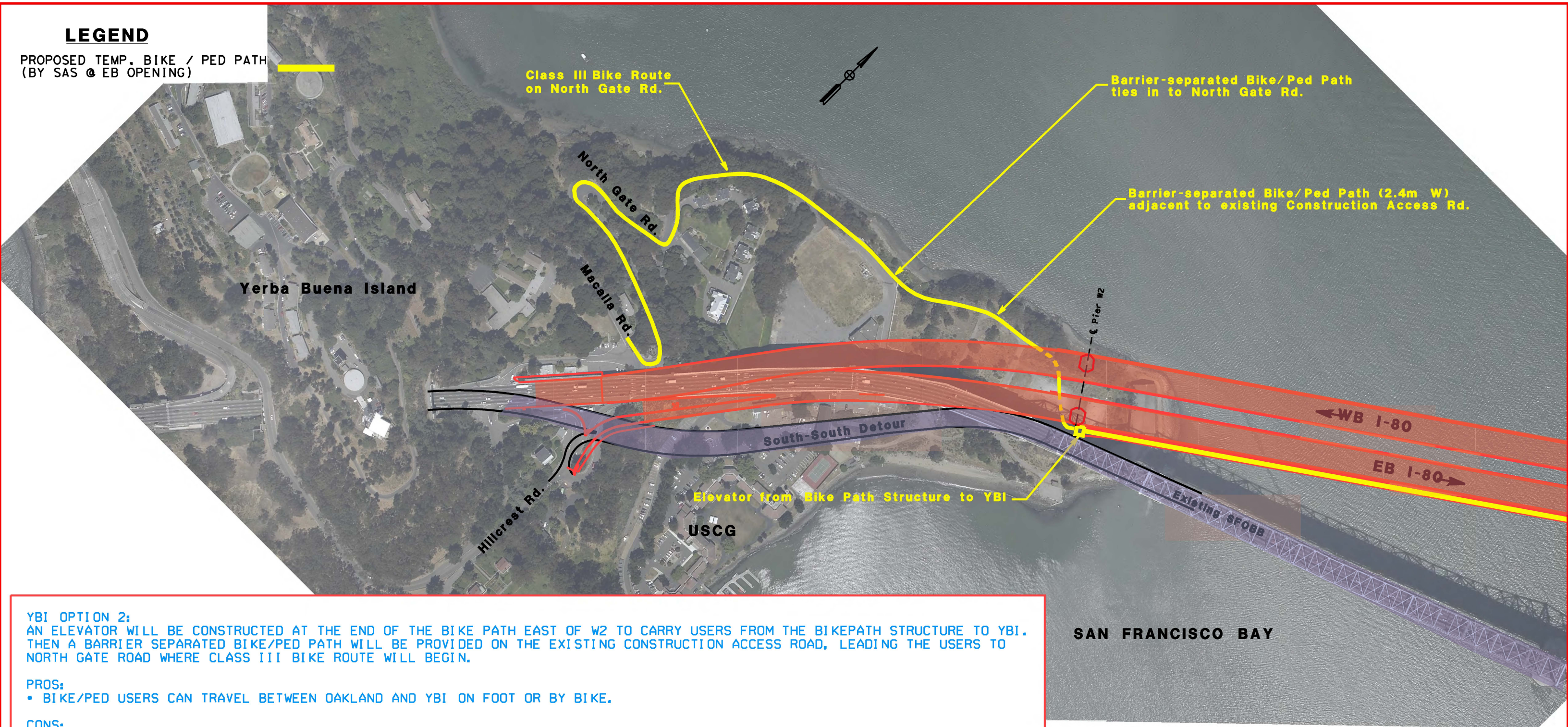
PROS:
NO CONSTRUCTION AND COST IMPACT.

CONS:
BIKE/PED PATH USERS HAVE TO TURN-AROUND AFTER TRAVELING 2.5 MILES FROM OAKLAND TOUCHDOWN.

YBI Option 1 - Terminates at Bent E2

LEGEND

PROPOSED TEMP. BIKE / PED PATH
(BY SAS @ EB OPENING)



YBI OPTION 2:
AN ELEVATOR WILL BE CONSTRUCTED AT THE END OF THE BIKE PATH EAST OF W2 TO CARRY USERS FROM THE BIKEPATH STRUCTURE TO YBI. THEN A BARRIER SEPARATED BIKE/PED PATH WILL BE PROVIDED ON THE EXISTING CONSTRUCTION ACCESS ROAD, LEADING THE USERS TO NORTH GATE ROAD WHERE CLASS III BIKE ROUTE WILL BEGIN.

PROS:

- BIKE/PED USERS CAN TRAVEL BETWEEN OAKLAND AND YBI ON FOOT OR BY BIKE.

CONS:

- BIKE/PED PATH USERS ARE IN THE MIDDLE OF THE CONSTRUCTION ZONE (IN THE VICINITY OF BRIDGE DEMOLITION).
- THE STEEP TERRAIN ON YBI MIGHT NOT USER-FRIENDLY FOR ALL BIKE/PED USERS. (UP TO 14% ON CONSTRUCTION ACCESS ROAD, AND 9% ON NORTH GATE RD.)
- SIDEWALK IS NOT AVAILABLE ON NORTH GATE RD., BIKERS AND PEDS ARE REQUIRED TO CO-SHARE THE ROADWAY WITH VEHICLES IF THEY DECIDE TO REACH THE BUS STOP ON MACALLA RD.
- ADOPTION OF ELEVATOR MIGHT NOT BE COST-EFFECTIVE.
- ELEVATOR MIGHT RESULT IN LONG QUEUE IN AN UNDESIRABLE LOCATION; OPERATORS ARE REQUIRED WHILE THE PATH IS IN USE.

YBI Option 2 - Elevator

TO: Toll Bridge Program Oversight Committee (TBPOC) **DATE:** April 28, 2010

FR: Jason Weinstein, Senior Program Coordinator, BATA
Mo Pazooki, Project Manager, Caltrans

RE: Agenda No. - 7

Item- Dumbarton and Antioch Bridge Retrofit Update

Recommendation:

For Information Only

Cost:

N/A

Schedule Impacts:

N/A

Discussion:

Dumbarton Bridge

The Toll Bridge Program Seismic Peer Review Panel (SPRP) had a teleconference on April 13, 2010 and consensus was obtained to remove the bent cap bolster, and column/pedestal retrofit measures at the west and east approach spans. During this call, the SPRP was briefed on the success of the prototype isolation bearing program in reducing risks to the project during construction.

The addendum the TBPOC approved on April 1, 2010 for the removal of the approach span retrofit measures has been posted for bidders. The revised published engineers estimate is currently \$73 M down from \$171 M. The number of working days has also been revised to 600 down from 810 days. The large reduction of the construction cost estimate is due to removal of retrofit measures at the approach spans, marine access, time related overhead, and adjustment to market unit prices based on the recent bid opening for the Antioch retrofit contract.

A contractor technical outreach and site tour are planned for April 30, 2010. Also, a mandatory pre-bid meeting and site tour are planned for May 6, 2010.

Memorandum

Antioch Bridge

The Toll Bridge Program Seismic Peer Review Panel (SPRP) had teleconferences on April 13 and April 22, 2010 to discuss the Antioch Retrofit. The discussion surrounded the restrainer system proposed to ensure that bridge will not move due to thermal conditions or live traffic on the bridge. The SPRP was convinced in concept; however, they want to see the restrainer system placed at all frames to prevent "walking of the superstructure". The details of this restrainer system will be issued as a change order at a future date.

The construction contract was awarded to California Engineering Contractors, Inc. (CEC) of Pleasanton, CA on April 22, 2010.

The nesting bird deterrence work being performed by H.T. Harvey and Associates continues to deter bird nesting at the project site so that the construction contractor CEC can mobilize and begin work.

Attachment(s):

N/A